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American Institute of Certified Public Accountants. Service-Center-Produced Records Task Force

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American Institute of Certified Public Accountants

## AUDIT AND ACCOUNTING GUIDE

# AUDITS OF SERVICE- CENTER- PRODUCED RECORDS

PREPARED BY SERVICE-CENTER-  
PRODUCED RECORDS TASK FORCE

*Revised Edition*

# **AUDITS OF SERVICE- CENTER- PRODUCED RECORDS**

**PREPARED BY SERVICE-CENTER-  
PRODUCED RECORDS TASK FORCE**

***Revised Edition***

## NOTICE TO READERS

This audit guide presents the recommendations of the Service-Center-Produced Records Task Force regarding the application of generally accepted auditing standards to independent auditors of organizations that use services provided by EDP service centers and to independent auditors who are engaged to report on certain aspects of the system of internal accounting control that relate to accounting systems processed by EDP service centers. It represents the considered opinion of the task force on the best auditing practice for such engagements and has been reviewed by members of the AICPA Auditing Standards Board for consistency with existing auditing standards. AICPA members may have to justify departures from the recommendations contained in this guide if their work is challenged.

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# Table of Contents

|  |     |
|--|-----|
| <b>Preface</b> .....   | vii |
| <b>Introduction</b> .....  | ix  |
| The Environment in Which Clients Use Service<br>Centers .....  | ix  |
| Service Centers, Service Auditors, and User<br>Auditors .....  | x   |
| Organization of This Guide .....   | x   |
| <b>1 The Effect of Using a Service Center on the<br/>    User Auditor's Review of Internal<br/>    Accounting Controls</b> ..... | 1   |
| The Effect on a User Organization's System of<br>Internal Accounting Control .....   | 1   |
| General Controls .....   | 3   |
| Organization and Operation Controls .....  | 3   |
| Systems Development and Documentation<br>Controls .....  | 3   |
| Hardware and Systems Software Controls ....  | 4   |
| Access Controls .....  | 4   |
| Data and Procedural Controls .....   | 4   |
| Application Controls .....   | 5   |
| Effect on the User Auditor's Study and Evaluation<br>of Internal Accounting Control .....  | 5   |
| Alternatives to Visiting the Service Center .....  | 7   |
| Other Considerations .....   | 9   |
| <b>2 Reporting on Service-Center Reviews</b> .....   | 12  |
| Types of Service Auditor's Reports .....   | 12  |
| Reporting Requirements .....   | 14  |
| Form of Service Auditor's Reports .....  | 17  |
| Form and Content of the Service Auditor's<br>Opinion—Type 1 Report .....   | 18  |
| Form and Content of the Service Auditor's<br>Opinion—Type 2 Report .....   | 19  |

|   |               |
|---|---------------|
| Control Exceptions .....  | 20            |
| Content and Form of the Description Provided by<br>the Service Center .....                   | 20            |
| Service-Center Description—Content .....  | 20            |
| Overview of Operations .....  | 21            |
| Overview of Application Systems.....  | 21            |
| General Control Procedures .....  | 21            |
| Flow of Transactions Through Significant<br>Accounting Applications.....                      | 22            |
| Application Controls .....  | 23            |
| User Control Considerations.....  | 24            |
| Service-Center Description—Form .....   | 24            |
| Form and Content of the Supplemental Information<br>Provided by the Service Auditor .....     | 25            |
| Objectives of the Review .....  | 25            |
| Control Objectives Achieved.....  | 26            |
| Weaknesses.....   | 26            |
| Recommendations.....  | 27            |
| Applicability of Generally Accepted Auditing<br>Standards .....                               | 30            |
| Special Considerations With Regard to AICPA<br>Rules of Conduct.....                          | 31            |
| Conduct of Fieldwork.....   | 31            |
| Representation Letter.....  | 34            |
| <br><b>3 Using a Service Auditor's Report.....</b>  | <br><b>36</b> |
| Deciding Whether to Obtain a Service<br>Auditor's Report.....                                 | 36            |
| Evaluating a Service Auditor's Report.....  | 39            |
| Types of Service Auditor's Reports and Time Period<br>Covered .....                           | 39            |
| Type 1 Report .....   | 39            |
| Type 2 Report .....   | 40            |
| Completeness of the Service Auditor's Report.....   | 41            |
| Use of the Service Auditor's Report in the<br>Evaluation of Internal Accounting Control ..... | 42            |
| Other Considerations .....  | 44            |
| Establishing a User Auditors' Group .....   | 44            |
| Referring to a Service Auditor's Report.....  | 45            |
| Special Requests.....   | 45            |

|                           |   |    |
|---------------------------|---|----|
| <b>Appendix A</b>         | Illustrative Service Auditor's Report—<br>Type 1 Report.....                | 47 |
| <b>Appendix B</b>         | Illustrative Service Auditor's Report—<br>Type 2 Report.....                | 49 |
| <b>Appendix C</b>         | Illustrative Type 1 Report—Review of<br>Design.....                         | 51 |
| <b>Appendix D</b>         | Illustrative Type 2 Report—Review of<br>Design and Compliance Testing ..... | 63 |
| <b>Appendix E</b>         | Illustrative Representation Letter.....                                     | 75 |
| <b>Bibliography</b> ..... |   | 77 |

## Preface

This audit and accounting guide replaces and supersedes *Audits of Service-Center-Produced Records* issued in 1974. This guide incorporates the general guidance given in Statement on Auditing Standards (SAS) No. 44, *Special-Purpose Reports on Internal Accounting Control at Service Organizations*, and other auditing pronouncements issued since the guide was first published.

The guide has been prepared to assist (1) the independent auditors of organizations that use services provided by EDP service centers and (2) independent auditors who are engaged to report on certain aspects of the system of internal accounting control that relate to accounting systems processed by EDP service centers. It does not provide any additional guidance on reports discussed in SAS No. 44 that are not related to EDP service centers.

This guide assumes that the independent auditor has an understanding of EDP fundamentals, EDP controls, and fundamentals of automated accounting systems. It is not intended to be a basic educational tool in data processing concepts or in the operational aspects of service centers. Where appropriate, however, certain elements of EDP systems are explained for purposes of clarification. Although this guide may be helpful in planning audit procedures, it does not establish standards by which the performance of an audit should be measured. The guide does not address advising client organizations on the selection of a service center or rendering an opinion on whether a service center's proposed system is suitably designed to achieve appropriate control objectives.

*Service-Center-Produced  
Records Task Force*

*April 1987*



# **Introduction**

## **The Environment in Which Clients Use Service Centers**

Clients use a variety of services provided by EDP service centers. Such services may include recording transactions and performing related data processing services.

Some service centers provide the physical computer facility while users of the service center provide their own programs, data entry services, and even computer operators. Other service centers provide not only the computer equipment but programming services, data entry services, input-output control functions, and report distribution services as well. Certain service centers may effectively fulfill the function of advising management on the use of relatively sophisticated business management techniques, such as controlling inventories or scheduling production.

When renting time at a service center where a client both operates the computer and develops the programs, the client should follow control procedures similar to those followed by a client that operates its own system with its own personnel.

Service centers most frequently provide computer operators and computer programs for use in processing user data. In these circumstances the user normally submits data to the service center, where service-center personnel encode it and oversee its processing. The service center may write computer programs for such processing exclusively for one of its customers (the user), or it may adapt other programs and modify them as appropriate for the user's purposes. Sometimes data is processed by using programs that are owned and maintained by the service center and provided to many different users of the service center.

Some service centers maintain computer systems that support terminals located on users' premises. Users can enter data directly into the system through the terminals. The data may be held for later batch processing or may be used to update data files on a real-time basis, such as for savings and loan associations. Service centers that support terminal access usually provide and maintain

programs and give users guidance on how to use the system and interpret the results of processing.

Another arrangement where a client uses an outside organization's services that affect its computer operations is a facilities management agreement. Under such an agreement, a user may enter into a contract with a third party to manage, staff, and operate the user's computer system. In such instances there may be a division of responsibilities between the company and the facility manager in establishing and maintaining control standards.

## **Service Centers, Service Auditors, and User Auditors**

When a client uses a service center to process significant financial data, a legally separate organization that maintains, controls, and performs services that may directly affect the scope of the auditor's examination is introduced into the audit. Auditors whose clients use a service center may use a report from another independent auditor specifically engaged to report on certain aspects of the service center's system of internal accounting control in performing a study and evaluation of the client's system of internal accounting control. For purposes of this guide the following definitions apply: (a) the entity whose financial statements are being examined is referred to as the *client*, or *user*; (b) the auditor of that entity is referred to as the *user auditor*; (c) the organization that provides services to the client is referred to as the *service center*, and (d) the auditor who reports on certain aspects of the internal accounting controls of the service center is referred to as the *service auditor*.

## **Organization of This Guide**

Chapter 1 of this guide describes how the use of a service center can affect a user organization's system of internal accounting control and the user auditor's study and evaluation of that system. The chapter also describes other matters the user auditor may wish to consider in providing services to clients that use service centers.

Chapter 2 of this guide (1) provides guidance to the service auditor who is engaged to prepare a report on certain aspects of the service center's system of internal accounting control, (2) describes the various types of service-center review engagements an independent auditor may undertake, and (3) provides guidance on conducting and reporting on such reviews.

Chapter 3 of this guide discusses the use of the service auditor's report by the user auditor. It describes the elements of the report that the user auditor should consider in determining its suitability in achieving his audit objectives, and it discusses how the user auditor may interact with the service auditor so that the service auditor's report is of maximum benefit.

## **Chapter 1**

# **The Effect of Using a Service Center on the User Auditor's Review of Internal Accounting Controls**

This chapter describes how the use of a service center can affect a user organization's system of internal accounting control and the user auditor's study and evaluation of that system. It describes the circumstances under which the user auditor should include control procedures at a service center in his study and evaluation of a client's system of internal accounting control. The chapter also describes other matters the user auditor may wish to consider in providing service to clients that use service centers to process significant accounting applications.

## **The Effect on a User Organization's System of Internal Accounting Control**

Although computer processing performed by a service center may result in accounting records similar to those maintained by an entity using its own computer system, there are differences between the way a service center is operated and the way an entity may operate its own computer system. The controls in place at both the user organization and the service center may also differ significantly, depending on the relationship between the two organizations. The objectives of a system of internal accounting control are the same whether a company operates its own computer or uses a service center to process significant accounting applications. (Refer to the AICPA's *Professional Standards*, AU section 320.27, for objectives of accounting controls.)

A client that uses a service center may depend on control procedures performed by a service center as well as on control

procedures at the client location. In fact, most users of service centers depend on a combination of control procedures performed by the service center and by client personnel. Many control procedures performed by a service center normally apply to all users of the service center. For example, if a client processes data using standard computer programs developed, owned, and operated by a service center, processing is normally subject to control procedures developed by the service center for all users of those standard programs. In such cases the service center sometimes does not perform all the control procedures that the user auditor considers desirable, and the client is unable to require that they be implemented.

Service centers' policies regarding their responsibilities to users vary. Typically, user personnel are responsible for providing accurate data on a timely basis, maintaining controls to detect inaccurate data entry, and making corrections in data as necessary. The user of a service center may not have the authority to control changes in the application programs it uses. As a result, the risk of changes being made without the user's knowledge or evaluation of the changes is increased.

When a service center prepares specially designed programs at the user's request, the programs may include application control procedures designed by the user. In such cases, achieving application control objectives may depend more on user-specified control procedures than on control procedures developed by the service center. General control procedures in place at the service center, on the other hand, normally do not vary, even when users have customized programs.

When a company rents computer time from a service center and provides its own programming and operations staff, some of the general control procedures performed by the service center (for example, access and system software controls) may become part of the system of internal accounting control of the user, while other general control procedures depend solely on the user organization's policies and procedures. In those circumstances general control procedures may differ from one user to another.

Although use of time-sharing services may change the method of entering data, operating the system, and receiving output reports, the division of control responsibility may be similar to that discussed for other service-center processing.

## **General Controls**

### **Organization and Operation Controls**

The separation of duties between the service center's personnel and its users may result in effective segregation of functions between users and data processing personnel. Policies prohibiting data processing personnel from initiating, authorizing, or revising transactions may help achieve the objectives of internal accounting control if they are effectively implemented in a service-center environment. The appropriateness of the separation of incompatible duties within the data processing center is no different than it would be for an in-house installation of similar size.

### **Systems Development and Documentation Controls**

Maintenance and testing of programs and authorization for putting new or modified programs into production at a service center should normally be subject to the same control procedures a client would use if it performed its own processing. When a service center processes data for a number of customers using the same programs, the functions of authorizing changes, approving changes, and approving test results of those changes are typically performed by service-center personnel rather than user personnel. As a result, unless the service center's management has procedures to notify customers, the customers may not be aware of the changes or of any resulting effects on processing of their data.

Controls over the conversion of client records to be processed at a service center are the same as those required by a client that performs a conversion on its own system. Service centers are normally accustomed to converting client records and may provide relatively effective controls over master-file conversions.

Service-center standards for program and systems documentation should provide for an appropriate level of application documentation, including user documentation, operator instructions, system-level documentation, and detailed program documentation. Without adequate user documentation, the user may find it difficult to use the application properly and maintain adequate control. Without adequate operator, system, and program-level documentation, the service center may have difficulty maintaining the system and providing appropriately controlled processing on a timely basis.

## **Hardware and Systems Software Controls**

Hardware and systems software control procedures in a service-center environment are similar to those appropriate for a client operating its own computer.

### **Access Controls**

Service centers frequently (1) combine data records of different customers in one physical file, (2) provide users with access to computers through terminals, and (3) permit customers to access the computer while other customers' information is being processed. These conditions may result in control weaknesses unless proper precautions are taken to prevent unauthorized customer employees, other customers, or unauthorized service-center employees from obtaining access to and changing records.

### **Data and Procedural Controls**

A service center may have effective control over receiving data, scheduling, processing, and delivering reports. For example, when reports prepared by a service center contain sensitive or proprietary information, the client depends on service-center output and report-distribution control procedures for assurance that others do not have access to such information. Users may not, however, be able to make certain that control procedures of this type are followed on a regular basis.

Service centers are frequently large and their operations complex. Because service centers process a variety of applications for different customers or variations of the same application for different customers, there may be a greater need for complete written operating procedures to reduce the risk of occurrence of errors through improper operating procedures. Accordingly, the lack of written operating instructions may be a more serious control weakness for a service center than it would be for a smaller in-house computer department processing fewer applications.

Internal audit involvement in determining that data processing control procedures are performed may increase the effectiveness of a system of internal accounting control. A service center's internal auditors are typically concerned with the service center's internal accounting controls and may not perform extensive reviews of the controls related to data processed for customers. Therefore, a user may have to use its own internal auditors to determine that service-center control procedures relating to the data processed for customers are functioning.

## **Application Controls**

Service centers often perform procedures that help to determine that input is received, entered into the system, and processed properly, and that output is complete and accurate. The performance of these procedures creates the potential for a user to implement control procedures that, when combined with those procedures performed at the service center, provide a system suitably designed to achieve appropriate internal accounting control objectives. Because service centers process data for many customers, however, there is a potential for types of errors that would not exist if a client used its own computer. For example, processing data for multiple customers on common physical files presents the risk of transactions being posted to the wrong customer. Therefore, it is generally necessary for a user to establish control procedures to help ensure that data sent to the service center was processed and that output is complete and accurate. Examples of such user procedures include maintenance and reconciliation of control totals and a control list for logging anticipated output reports when they are received.

## **Effect on the User Auditor's Study and Evaluation of Internal Accounting Control**

When a client uses a service center to process accounting data, transactions that affect the client's financial statements flow through an accounting system that is, at least in part, physically and operationally separate from the client organization. The user auditor should identify significant classes of transactions and gain an understanding of the flow of those transactions through the accounting system related to such transactions, including the portion that is maintained by the service center. In such circumstances, a user auditor may find it more efficient or, in some cases, necessary, to consider the accounting and control procedures performed at the service center. The user auditor should consider whether specialized computer-related knowledge and skills are needed to understand the flow of transactions, to understand the nature of internal accounting control procedures, or to design and perform testing procedures. If specialized skills are needed, the user auditor should seek the assistance of a professional possessing such skills, who may be either on the user auditor's staff or an outside professional.



The relationship of control procedures performed at the service center to the user's system of internal accounting control depends in part on the nature of the services provided by the service center. When those services are limited to recording user transactions and processing related data, other functions relating to the flow of the transactions, such as authorizing transactions and maintaining related accountability, are performed at the user organization. Thus, control procedures at the service center may interact with those at the user organization.

If the user auditor plans to rely on the system of internal accounting control, he should determine whether accounting control procedures related to the entire application are suitably designed to provide reasonable assurance that they will prevent or detect errors or irregularities, assuming satisfactory compliance. In making that determination, the user auditor should consider the division of control procedures between the user organization and the service center.

If a user organization, for example, uses the service center to process payroll transactions, certain control procedures, such as those relating to the accuracy of input data, may be located at the user organization. Other control procedures, such as those related to changes to the computer program used to process the payroll, would be located at the service center. The user organization may maintain controls over payroll data processed by the service center that would provide reasonable assurance that errors and irregularities in transactions processed at the service center would be detected. For example, the user organization may reperform calculations on a test basis. In those circumstances the user auditor can plan to place reliance on internal accounting control procedures at the client organization with no further study of control procedures maintained by the service center.

In other circumstances, however, the user auditor may find that certain control procedures necessary to achieve the objectives of internal accounting control are located at the service center. If the user auditor plans to rely on such controls in designing audit procedures to be applied in his examination of the client's financial statements, he should consider the reliance that can be placed on controls located at the service center. Ordinarily, the user auditor can make that evaluation either by applying appropriate procedures at the service center or by applying alternative procedures.

## **Alternatives to Visiting the Service Center**

If the user auditor intends to rely on internal accounting controls, there may be circumstances in which he can gain an understanding of the system of internal accounting control by reviewing client procedures, output records prepared by the system, computer system documentation provided to the user organization by the service center, and by discussions with knowledgeable personnel in the client's organization. The service center may supply the user organization with sufficient, detailed information on service-center control procedures, system documentation, user documentation, operator instructions, and detailed program-level documentation so that the auditor may gain an understanding of the control procedures available at the service center to achieve appropriate control objectives.

Such a circumstance would be unusual, however, because service centers generally do not provide user documentation in sufficient depth to permit the auditor to obtain all the desired information for a review. Even in those circumstances where it would be possible to gain sufficient understanding of the design of that portion of the system of internal accounting control maintained by a service center from the documentation supplied to the user, the user auditor would still have to visit the service center if he intended to place reliance on any specific control procedures applied at the service center in changing the nature, timing, or extent of substantive audit procedures, unless he applies the procedures described in the following paragraphs.

An alternative to visiting a service center as part of an auditor's study and evaluation of internal accounting control may be available to the auditor of a company using a service center. The service center may have engaged an independent auditor to prepare a service auditor's report on accounting applications processed by the service center. There are two types of service auditor's reports that may be available: (a) a report on the design of a system and (b) a report on the design of a system and compliance tests that are directed to specific objectives of internal accounting control. (Chapter 2 describes these reports and the procedures followed in preparing them.)

A service auditor's report on the design of a system should provide the user auditor with an understanding of (1) the flow of transactions through the portion of the user organization's account-

ing system that is maintained by the service center and (2) the extent to which control procedures have been designed to achieve specific control objectives. A report on the design of a system may be helpful to the user auditor in designing compliance and substantive tests at the user organization. Such a report, however, does not provide the user auditor with a basis for reliance on controls located at the service center because it provides no assurance regarding compliance.

A service auditor's report on both the design of the system and the compliance tests that are directed to specific objectives of internal accounting control should also provide the user auditor with an understanding of (1) the flow of transactions through the portion of the user organization's accounting system that is maintained by the service center and (2) the extent to which control procedures have been designed to achieve specific control objectives. In addition, such a report includes the service auditor's opinion on whether the control procedures and the degree of compliance with them are sufficient to provide reasonable, but not absolute, assurance that the specific control objectives were achieved during the time period covered by the review. The user auditor may find that the service auditor's report does not include compliance tests of the procedures on which he intends to rely or that the period reported on is insufficient for his purposes. Consequently, he may arrange to have the service auditor report on the results of applying agreed-on procedures for testing compliance with those control procedures on which he intends to rely, or he may perform his own compliance tests at the service center.

After obtaining the service auditor's report on design and compliance, the user auditor should consider whether the combination of internal accounting control procedures at the user organization and the service center provides a basis for reliance in restricting the extent of substantive tests. Relevant control weaknesses (that is, failure to achieve an identified control objective) indicated in the service auditor's report should be considered to be possible weaknesses in the user organization's system of internal accounting control. If the service auditor's report discloses weaknesses related to either (1) the design of that portion of the service-center system of internal accounting control related to processing user organization transactions or (2) the extent of compliance with prescribed procedures, the user auditor should assess the effect of such weaknesses on the remainder of his study and evaluation

of the client's internal accounting controls and on the nature, timing, and extent of substantive tests.

## **Other Considerations**

In some cases the user may own but not have physical possession of the computer programs and the related documentation used by the service center. Lack of possession of documentation and programs may prevent the client from using them to independently provide for an interruption of service at the service center. Lack of possession of documentation may increase the risk of errors in entering data, maintaining appropriate controls over the processing, and properly interpreting the results. It may also make it difficult for client personnel to provide the auditor with an understanding of the way data is being entered, processed, and controlled as part of the accounting system.

If a user is dependent on application programs, systems software programs, and documentation maintained entirely by the service center for the processing of significant financial data, the user's ability to maintain accounting records on an ongoing basis may be dependent on the financial stability of the service center. This may not have a direct effect on the auditor's evaluation of internal accounting control, but it may be significant to client management in establishing contingency plans for normal business operations. Users have the same need for contingency plans and backup copies of files when using a service center as they do when processing data in-house. Using a service center may, however, shift or divide responsibilities for implementing appropriate procedures. Contingency planning for processing at a service center should be part of a client's overall planning to provide for continuity of operations in the event of a disaster.

When reviewing controls at a service center, the user auditor may identify conditions in the service center's portion of the system of internal accounting control relating to the processing of his client's transactions that, when combined with his client's procedures, create a weakness in the overall system of internal accounting control. The user auditor has the same responsibility for reporting those weaknesses to the management of his client organization as for reporting any other control weakness. (See Statement on Auditing Standards No. 20, *Required Communication of Material Weaknesses in Internal Accounting Control*.) In addition, the user

auditor should consider whether this information should be communicated to service-center management. If a determination is made to communicate weaknesses in writing to service-center management, it is more appropriate for the user auditor's client to do so, because the client has a contractual relationship with the service center and the user auditor has none with regard to the review being performed.

The auditor may wish to review his client's agreement with a service center to determine the extent to which the agreement provides for desirable control procedures and permits user auditors to review and test controls and to perform tests on data files. The auditor may also wish to inform the client if the agreement does not provide for a desirable level of service and control. To enable him to do this, the user auditor should determine whether the agreement includes the elements presented in the following checklist.

### **Checklist for Client Agreement With a Service Center**

- A description of input to be provided, processing to be performed, and output to be provided ☐
- Procedures for handling errors ☐
- Procedures for protecting client records ☐
- Provision for performing audit procedures at the service center ☐
- Backup provisions by the service center ☐
- Statements about client responsibilities, particularly in data preparation, input control, and master-file changes ☐
- Identification of the person at the service center who is responsible for client contact and the person in the client organization authorized to deal with the service center ☐
- A description of service charges for such things as conversion of data, normal operation, special programming, supplies, rate differential for processing at other than normal times, pick-up and delivery, storage, special reports, and reruns or changes ☐
- Provisions for conversion and deconversion, including such things as the possible need for parallel processing of transactions, conversions of files, and related time schedules ☐
- Statements about the liability of the service center (including liability insurance coverage) if processing errors occur or if data is lost ☐
- Statements about which party owns data files, programs, and documentation ☐

- Statements about the form and frequency of billings ☐
- Statements about the responsibilities of the service center for maintaining controls ☐
- The service center's responsibility to notify the client in writing of any system change that would affect procedures, reports, or processing of data ☐
- The scheduling of work, including expected times for delivery of input and output ☐
- The service center's responsibility to obtain bonding of employees ☐
- The term, renewal options, and cancellation provisions of the contract ☐
- Statements about the responsibility for providing user auditors with a service auditor's report ☐
- Statements about the responsibility for providing information to, and otherwise cooperating with, auditors and regulatory agencies ☐

## **Chapter 2**

# **Reporting on Service-Center Reviews**

A service center that processes accounting data for clients of several different auditors may find it excessively time-consuming to cooperate with each user auditor on a separate review of accounting applications and related controls at the service center. A reasonable alternative may be for one auditor (the service auditor) to perform a review at the service center and to report the results to the service center or the other auditors (the user auditors). Under this approach, the service auditor would be engaged to perform a review at the service center and report results in the manner described in this chapter, while the user auditor would retain responsibility for evaluating internal accounting control at the service center as it affects his examination using the report of the service auditor as described in chapter 3.

### **Types of Service Auditor's Reports**

There are three general types of service auditor's reports relating to data processing provided by service centers. They are—

1. Reports relating to the review of design of the system used by a service center to process users' data as of a specified point in time (the date of the service auditor's opinion).
2. Reports relating to the review of design of the system used by a service center to process users' data and certain compliance tests that are directed to specific objectives of internal accounting control for a specified period of time (the period indicated in the service auditor's opinion).
3. Reports relating to the application of agreed-on procedures between the service auditor and the user auditors.

The *report on review of design* (type 1) is discussed in Statement on Auditing Standards No. 44, paragraphs 30 to 35. As it specifically relates to off-premises data processing, the review of design should provide information needed by user auditors to gain an understanding of (1) the flow of transactions through the accounting system, (2) the extent to which computers are used in each significant accounting application, and (3) the basic structure of accounting control. Type 1 reports should include as detailed a description of the portion of the accounting applications processed by the service center as is necessary to permit the user auditor to design audit procedures. When preparing a type 1 report, the service auditor should perform procedures considered necessary to clarify understanding of operating and control procedures described by the service center. The performance of such procedures is commonly referred to as a *walk-through* and is not as extensive as testing performed when a *report on a review of design and compliance testing* (type 2) is to be prepared.

A report on design and certain compliance tests directed to specific objectives of internal accounting control (type 2) should include all information required in a type 1 engagement and additionally should give the results of the service auditor's compliance testing. Such testing should be applied to those identified control procedures relating to objectives that service-center procedures can reasonably be expected to achieve. Such objectives may have been specified by user auditors who informed the service auditor of a desire to rely upon specific accounting control procedures within the portion of their client's accounting application, or applications, processed by the service center. Alternatively, the service auditor may have identified those objectives that service-center procedures should be expected to achieve. In either case, the service auditor would perform compliance tests of those procedures that help to achieve the objectives. Such compliance tests should ideally be applied to control procedures executed throughout the period being reported on by the service auditor.

Both type 1 reports and type 2 reports on service-center processing should also include supplemental information provided by the service auditor (*a*) to further describe the review and its objectives and (*b*) to describe weaknesses (as further discussed in this chapter). Both reports should also provide such additional information that the service auditor considers necessary in the circumstances.



After completing the preliminary phase of the review of internal accounting control by using, in part, the type 1 report described above, user auditors may conclude that accounting control procedures within the portion of the client's accounting system processed by the service center, if complied with satisfactorily, provide a basis for reliance thereon and for restricting the extent of substantive tests. User auditors may wish to have related tests of compliance of certain selected control procedures performed by the service auditor, which results in the need for a *report relating to the application of agreed-on procedures* (type 3).

When planning to use a type 3 report, a user auditor should inform the service auditor of his conclusion that the service center's achievement of certain control objectives or, alternatively, that certain accounting control procedures within the portion of his client's application(s) processed at the service center appear to provide a basis for reliance thereon and for restricting the extent of his substantive tests. User and service auditors should agree on the accounting control procedures that are to be compliance tested and on the scope of testing. The service auditor would expand procedures as necessary to complete the requested compliance tests and to report the results to the user auditor who requested the work. The resulting type 3 report should generally take the form of a separate letter addressed to the persons who participated in specifying the procedures to be completed, and this should describe the testing performed and the results of those tests. The format and example of reports relating to the application of such agreed-on procedures is included in Statement on Auditing Standards No. 35, *Special Reports—Applying Agreed-upon Procedures to Specified Elements, Accounts, or Items of a Financial Statement*.

Differences among the three types of service auditor's reports are summarized in the table on page 15.

## **Reporting Requirements**

Paragraphs 60 and 61 of SAS No. 30, *Reporting on Internal Accounting Control*, provide general guidance on the preparation of special-purpose reports on internal accounting control, including reports for use by another independent accountant.

Paragraph 61 of SAS No. 30 states that special-purpose reports on internal accounting control should do the following: (1) describe the scope and nature of the accountant's procedures, (2) disclaim

## Summary of Differences Among the Three Types of Service Auditor's Reports

|  | <i>Type 1—Review of Design</i>  | <i>Type 2—Review of Design and Compliance Testing</i>   | <i>Type 3—Agreed-on Procedures</i>   |
|--|---|---|--|
| <i>Purpose</i>   | Assist user auditor in gaining an understanding of significant accounting applications and related control procedures described   | Assist user auditor in gaining an understanding of significant accounting applications and related control procedures, and provide a basis for relying on identified control procedures         | Determine if user auditor can rely on certain selected control procedures  |
| <i>Time period covered</i>                               | Point in time   | Period being reported on  | Period specified by user auditor   |
| <i>Type of testing</i>                                   | Walk-through  | Compliance testing  | Compliance testing   |
| <i>Responsibility for defining tests to be performed</i> | Service auditor   | Service auditor   | User auditor   |
| <i>General description</i>                               | Consists of— <ul style="list-style-type: none"> <li>● service auditor's report</li> <li>● service-center description</li> <li>● supplemental information provided by service auditor</li> </ul> | Consists of— <ul style="list-style-type: none"> <li>● service auditor's report</li> <li>● service-center description</li> <li>● supplemental information provided by service auditor</li> </ul> | Separate letter describing scope of service auditor's extended review, tests performed, and results of those tests |

an opinion on whether the system, taken as a whole, meets the objectives of internal accounting control, (3) state the accountant's findings, and (4) indicate that the report is intended solely for management or specified third parties.

In addition to the elements of special-purpose reports described above, paragraph 33 of SAS No. 44 indicates that the service auditor's report on the design of a system (type 1) should—

- Include a description of the system used by the service organization to process client organization transactions and the related internal accounting control procedures that are relevant to client organizations.
- Include a description of the specific control objectives that relate to points in the flow of transactions where errors or irregularities may occur and the specific control procedures that are designed to achieve those objectives for each significant accounting application.
- State that the purpose of the procedures performed was to evaluate the design of the control procedures and that the service auditor did not test for compliance with the described control procedures.
- State the inherent limitations of any system of internal accounting control and the risk of projection of an evaluation to future periods.
- State the service auditor's opinion about whether the control procedures described were suitably designed to provide reasonable, but not absolute, assurance that the control objectives specified would be achieved if the control procedures were complied with satisfactorily.

Paragraph 39 of SAS No. 44 indicates that, in addition to the elements described earlier that are required by SAS No. 30, the service auditor's report on both the design of a system and compliance tests that are directed to specific objectives of internal accounting control (type 2) should—

- Include a description of the system used by the service organization to process client organization transactions and the related internal accounting control procedures that are relevant to the client organizations.
- Include a description of the specific control objectives that relate to points in the flow of transactions where errors and irregularities

can occur and the specific control procedures that are designed to achieve those objectives for each significant accounting application.

- State the inherent limitations of any system of internal accounting control and the risk of projection of an evaluation to future periods.
- State the service auditor's opinion about whether control procedures and the degree of compliance with them were sufficient to provide reasonable, but not absolute, assurance that specific control objectives were achieved during the time period covered by the review.

## **Form of Service Auditor's Reports**

Service auditor's reports contain three major elements:

- Service auditor's opinion
- Description provided by the service center
- Supplemental information provided by the service auditor

The form and content of each of these elements are discussed in chapter 2.

Type 1 and type 2 reports are of most practical value when significant accounting applications are described along with the service center's general control procedures. This is usually possible when the service center processes similar applications using standardized computer systems. Customers of the service center are generally offered limited options in utilizing these standard systems and must adjust their accounting procedures to conform with the service center's systems. Any system-tailoring that may be allowed generally does not negate the understanding of the flow of transactions and the basic structure of accounting control that the service auditor's report would provide. In these cases, the reports should include a description of the following: (1) general control procedures; (2) the flow of transactions; and (3) the basic structure of accounting control within those significant accounting applications on which the service auditor is reporting.

Certain service centers may offer only highly tailored application systems, each of which is utilized by only one customer. Under such circumstances a single system description provided through a type 1 or type 2 report would not be applicable to clients of

several different auditors. Although the reports may therefore describe only the service center's general controls, it should be recognized that user auditors will still have to obtain the necessary understanding of their clients' significant accounting applications by reviewing documentation, by visiting the service center, or by other means. Unless only general controls are to be addressed, the description included in the reports should include information needed to assist the user auditor in gaining an understanding of the flow of transactions and the basic structure of accounting control relating to applications on which the service auditor reports.

The service auditor may be requested to report on certain aspects of the internal accounting control system of the same service center in subsequent periods and may be engaged to report on significant accounting applications in addition to those described in the initial report. Reports prepared in subsequent periods should be presented in the same general format as the initial report; it is preferable that all significant accounting applications addressed in the initial service auditor's report should be described again.

### **Form and Content of the Service Auditor's Opinion—Type 1 Report**

A type 1 service auditor's report is expected to include the service auditor's opinion. The service auditor's opinion relating to a type 1 report should include the following:

1. A statement describing the scope of the review as of a specified date, including an indication of what application systems, if any, are included in the service center's description
2. A statement about the purpose of the procedures performed as part of the review
3. A statement indicating that the review's purpose is further described in the service auditor's supplemental information
4. An opinion, as of the specified date, as to whether the control procedures described were suitably designed to provide reasonable, but not absolute, assurance that the control objectives specified would be achieved if the control procedures were complied with satisfactorily. In any case, where the service auditor has identified control weaknesses in the supplemental information, a controls exception should be reported, as discussed later

5. A statement about the inherent limitations of any system of internal accounting control and the risk of projecting an evaluation to future periods
6. A statement indicating that the service auditor did not test for compliance with the described control procedures, together with a disclaimer of opinion about whether the control procedures were being applied as described for any period of time
7. A statement indicating that the service auditor's review did not extend to procedures performed by customers of the service center, together with a statement that such procedures should be considered by user auditors
8. A disclaimer of opinion on the system of internal accounting control related to the applications reviewed, taken as a whole
9. A statement about the parties for which the report is intended

### **Form and Content of the Service Auditor's Opinion—Type 2 Report**

A type 2 service auditor's report is expected to include the service auditor's opinion. The service auditor's opinion relating to a type 2 report should include the following:

1. A statement describing the scope of the review, including an indication of what application systems, if any, are included in the service center's description and the period of time covered by the service auditor's review
2. A statement about the purpose of testing performed as part of the review
3. A statement indicating that the review's purpose is further described in the service auditor's supplemental information
4. An opinion about whether the control procedures identified in the auditor's supplemental information and the degree of compliance with them were sufficient to provide reasonable, but not absolute, assurance that the control objectives specified were achieved during the period covered by the service auditor's review. In any case where the service auditor has identified control weaknesses in supplemental information, a controls exception should be reported, as discussed later.
5. A statement indicating that the service auditor's review did not extend to procedures performed by customers of the service

center, together with a statement that such procedures should be considered by user auditors

6. A statement about the inherent limitations of any system of internal accounting control and the risk of projecting an evaluation to future periods
7. A disclaimer of opinion about the functioning of procedures included in the service center's description but not in the supplementary information provided by the service auditor
8. A disclaimer of opinion on the system of internal accounting control related to the applications reviewed, taken as a whole
9. A statement about the parties for which the report is intended

## **Control Exceptions**

In some cases the service auditor will encounter no unusual circumstances or reporting problems. However, special consideration and alternative wording of the service auditor's opinion may be necessary when a control exception is encountered. A control exception refers to a situation in which the service auditor has identified control weaknesses (as previously discussed) in supplemental information. In such cases, his opinion about whether described control procedures achieved, in all significant respects, the control objectives that the service center could reasonably be expected to achieve would contain an exception for those matters the auditor has identified as weaknesses.

Examples of a service auditor's opinion issued when there are no unusual circumstances and when the service auditor encounters a control exception are presented in appendixes A and B for type 1 and 2 reports, respectively. If the service auditor has not been able to complete tests considered necessary in the circumstances, and consequently has not been able to determine if the accompanying description was consistent with actual operations and controls, he should disclaim an opinion or qualify his opinion, depending on his judgment about the effect of the scope limitation.

## **Content and Form of the Description Provided by the Service Center**

### **Service-Center Description—Content**

Differences in size, scope, and technology create a need for some degree of latitude in selecting the specific format used for

the service-center description. Each description, however, should generally contain the following information.

### **Overview of Operations**

The location and general nature of service-center operations together with the service center's hardware and software environment should be briefly described. The principal functional areas within the organization should also be briefly described in this section, and an organization chart might be presented.

### **Overview of Application Systems**

The applications described in the report should be functionally defined. If, for example, a "loan system" is described, the description should include the types of loans this system handles (for example, installment, mortgage, commercial). If users are allowed to customize the basic system to some degree, the general nature of this tailoring should be described, and the description should indicate whether such tailoring may negate the information regarding the flow of transactions and accounting control procedures provided in the balance of the report. Sufficient information should be provided to allow the user auditor to clearly understand which accounting applications have been described. When various applications interact, such as the automatic debit of demand deposit accounts for the purpose of making monthly loan payments, the nature of the interaction should also be briefly related.

### **General Control Procedures**

The nature of general controls should be described, and the service center's general control procedures should be described in terms similar to the following classifications of general controls: organization and operation; system development and documentation; hardware and systems software; access; and data and procedures. Within each of these classifications, various internal accounting control objectives should be identified. For each objective indicated, the report should describe the control procedures employed by the service center that achieve or help to achieve the objective. The level of detail presented in this section of the report should be adequate to provide the user auditor with the ability to answer the following types of questions:

- Do organizational controls within the service center provide for adequate supervision and segregation of functions within EDP and between EDP and users?



- Are there procedures that provide controls over systems development and access to systems documentation?
- Are there controls over program and systems maintenance?
- Are there controls over computer operations, including access to data files and programs?
- Are there controls that assure completion of file reconstruction and processing recoveries?
- Do the internal auditors become involved in the review and testing of EDP accounting controls?

### **Flow of Transactions Through Significant Accounting Applications**

The flow of transactions through the significant accounting applications should be documented by use of system flowcharts, narratives, or other appropriate techniques that depict the principal inputs, processing steps, data files, and outputs evident in a data processing application. The level of detail presented should be sufficient to provide the user auditor with an understanding of the flow of transactions through all the principal processing steps at the service center. Sorts, for example, need not be presented and the use of many report-generation programs to produce reports from a single master file can generally be presented as one processing step. The principal processing functions and controls relating to each processing step should be appropriately described. Principal reports should be briefly described in a manner that facilitates identification by user auditors, and the reports should be related to their points of production in the flow of transactions. Taken as a whole, the level of detail presented in this section and the “Application Controls” section of the report (which follows) should provide the user auditor with the ability to consider further information concerning the following factors:

- Applications documentation
- Activities and related source documents that start the flow of transactions
- Non-EDP processing applied to source documents
- Conversion of data into machine-readable form
- Flow of machine-readable transactions through significant accounting applications

- Master files that may be used to supply additional information to support the flow of transactions
- Procedures for the correction of errors
- Output files that are created, or master files that are updated, as part of the processing of data
- Output reports produced for significant accounting applications
- Non-EDP processing of output reports

### **Application Controls**

Control objectives for an application should be identified. At a minimum, the identified objectives should include those which control procedures within that portion of the application processed by the service center can reasonably be expected to achieve. For each control objective, the report should describe the control procedures employed within the system that achieve or help to achieve the objective.\* Taken as a whole, the level of detail presented in this and the preceding section of the report should provide the user auditor with information concerning the factors that have been listed relating to the flow of transactions. In addition, when combined with the user auditor's knowledge of control procedures in place at the client organization, such detail should provide the user auditor with the ability to answer questions similar to the following:

- Do input controls provide reasonable assurance that data received for computer processing have been properly authorized, converted into machine-readable form, and identified; and that data (including data transmitted over communication lines) have not been lost, suppressed, added, duplicated, or otherwise improperly changed? (Input controls include controls that relate to rejection, correction, and resubmission of data that was initially incorrect.)
- Do processing controls provide reasonable assurance that computer processing has been performed as intended for the particular application—that is, that all transactions are processed as authorized, that no authorized transactions are omitted, and that no unauthorized transactions are added?

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\* To the extent that classification of procedures by control objective is not provided in the service center's description, the required disclosure should be included in the supplemental information provided by the service auditor.

- Do output controls assure that the processing result (such as account lists or displays, reports, magnetic files, invoices, or disbursement checks) is complete, accurate, and that only authorized personnel receive the output?

### **User Control Considerations**

When considering specific controls, whether they are general controls or apply only to one application, it may become evident that the system was designed with the assumption that certain control procedures would be implemented by the user. If such user procedures would complement any of the specific control procedures delineated in the “General Control Procedures” or “Application Controls” section of the report, the related control objective may be repeated in this section, and the way the user is expected to participate in achieving the related control objective can be described. The presentation of user control considerations is a useful but not essential element of the description provided to user auditors.

### **Service-Center Description—Form**

As previously indicated, one of the elements included in type 1 and type 2 reports is a description of the application(s) being reported on and the related controls provided by the service center. The *content* of the service center’s description should either be as specified in the preceding section, or it should have sufficient detail to allow the service auditor to identify procedures that achieve control objectives so that they may be included in the supplemental information. The *form* of the service center’s description may therefore vary from that discussed in the preceding section, and the extent of this variation will directly affect the form of the supplemental information provided by the service auditor (another of the elements included in type 1 and type 2 reports described later).

Service-center management may elect to provide its description directly in the form discussed in the preceding section. The description would therefore include the following: major sections relating to an overview of operations, an overview of application systems, general control procedures, the flow of transactions through significant accounting applications, application controls, and (optionally) user control considerations. For such a form, general and application control objectives and (optionally) user

control considerations would be specified, and related control procedures would be described. Service-center management may request assistance from the service auditor to identify appropriate control objectives, categorize control procedures, and otherwise draft the description based on information provided by service-center personnel. Although it may be more cost-effective to have service-center personnel draft the description, it is acceptable for the service auditor to provide this type of assistance as long as service-center management acknowledges responsibility for the representations.

### **Form and Content of the Supplemental Information Provided by the Service Auditor**

The supplemental information provided by the service auditor in type 1 and type 2 reports should include a section that further describes the objectives of the review as well as a section that specifies the control objectives the service center can reasonably be expected to achieve. If the service center's description does not categorize procedures by control objective, the service auditor would add to the supplemental information a list of the specific control objectives and procedures that are designed to achieve them. For a type 2 report, the service auditor's list of control procedures that achieve the specified control objectives should include only those procedures that were compliance tested. Control procedures mentioned in the supplemental information as effective in reaching control objectives would include only the procedures that are in the service center's description. Additional sections may be included as appropriate in the circumstances. The recommended content of the sections included in the supplemental information is described in the following sections.

#### **Objectives of the Review**

The purpose of the service auditor's review should be clearly indicated in this section. The extent of his review and related tests should be briefly described. The anticipated use of the type 1 or type 2 report by user auditors should be specified, and the objectives of data processing controls as well as the concept of reasonable assurance should be briefly described.

Occasionally, the service auditor may be engaged to perform a review in accordance with certain regulatory requirements. In

such cases, these regulatory requirements should be specified as the basis for the service auditor's review. In these circumstances, the report should include a statement of whether or not any conditions came to the auditor's attention where the service center failed to meet regulatory requirements that were attainable by the service center. In some circumstances, specific reference to the governmental regulations may be required. For example, reviews performed to comply with Federal Home Loan Bank Board Bulletin PA-7-1a must include such information.

### **Control Objectives Achieved**

The service center's description may indicate various internal accounting control objectives and may describe the control procedures that assist in achieving those objectives. Based on his knowledge of control objectives and understanding of the service center and its processing, the service auditor should identify the control objectives the service center can reasonably be expected to achieve. Those objectives should be listed in this section. If the service center's description does not categorize control procedures by control objective, as indicated in the preceding section, the service auditor should list the procedures included in the service center's description that achieve or help achieve each control objective. It should be emphasized that, in a type 1 report, control objectives and the listed procedures designed to achieve them have not been tested for compliance. In a type 2 report, the list of control objectives and the procedures that achieve or help achieve those objectives should contain only those control procedures that were tested for compliance and found to be applied as prescribed.

### **Weaknesses**

The description provided to user auditors should indicate various internal accounting control objectives, and it also should describe the control procedures that assist in achieving those objectives. The service auditor should consider procedures employed by the service center or within the described data processing applications. If the service auditor identifies control weaknesses (that is, any identified objectives that the service center could reasonably be expected to achieve which were not achieved by the service center's procedures), then the related objectives should be repeated in this section, and the service auditor should describe the identified

control concerns. The description of the control concern may include a discussion of procedures that would be performed by users to help achieve specific control objectives as determined by the design of the system. Circumstances that should be described as weaknesses are those in which achievement of an individual control objective may not be reasonably assured by the service center's general control procedures or by specific accounting control procedures incorporated in the described data processing application(s). Weaknesses should include control procedures that have been described as existing but that are either not in existence or not in operation, as well as control procedures that are not in existence but that, in the judgment of the service auditor, may be necessary to achieve the indicated control objective. When preparing a type 2 report, the service auditor should include as weaknesses control procedures that were required to achieve an objective but that, in his judgment, may not be reliable because of lack of compliance. This section of the report should indicate that weaknesses the service auditor identifies are not necessarily weaknesses in the user's total system of internal accounting control. Likewise, the service auditor should not characterize weaknesses identified during the review as "material" or "not material." Such determinations can only be made by user auditors after they consider procedures in place at their clients' locations.

## **Recommendations**

In the course of a review, the service auditor may note areas where internal accounting controls should be improved in order to achieve specific control objectives that service-center procedures alone can reasonably be expected to achieve (for example, control over access to data files). These areas should be identified as weaknesses, as just described. The service auditor may also note administrative or other relevant areas that may be improved, and these areas may not necessarily be identified as weaknesses, as described above. If the service auditor elects to provide recommendations, they may be included in supplemental information or provided in the form of a separate letter. When a separate letter is issued, the service auditor should ensure that the areas where internal accounting controls should be improved to achieve specific control objectives are clearly identified as weaknesses in the context of his supplemental information, and the auditor may include a

statement indicating that recommendations have been provided under separate cover.

Sections 1 and 2 just described, “Objectives of the Review” and “Control Objectives Achieved,” should be included in the supplemental information provided by the service auditor. Section 3, “Weaknesses,” should also be included when applicable. Section 4, “Recommendations,” is optional.

As mentioned, the content of the description provided by the service center should either categorize control procedures by objective or be in sufficient detail to permit the service auditor to do so for user auditors, but the form of the service center’s description may vary widely. The service auditor’s supplemental information should include any additional information he believes necessary to ensure that the type 1 or type 2 report, when considered in its entirety, includes a categorization of control procedures by control objectives anticipated by user auditors. The extent to which the service center’s description varies in form will therefore directly affect the supplemental information provided by the service auditor. Examples follow of variation in the form of the description provided by the service center, and the resulting effect on the supplemental information provided by the service auditor.

#### Example A

The description provided by the service center includes sections relating to the overview of operations, the overview of application systems, the general control procedures, and the flow of transactions through significant accounting applications. “Overview of Operations” and “Overview of Application Systems” satisfy the requirements for these sections as previously described. The “General Control Procedures” section appears to contain an appropriate level of detail, but the information is presented as a narrative describing various control procedures, with no categorization in terms of the recommended classifications of general controls (or a substantial equivalent) and no indication of related internal accounting control objectives. The “Flow of Transactions” section also appears to contain an appropriate level of detail and is presented in the general form previously described. Service-center management has stated that the “Flow of Transactions” section contains all relevant information concerning applica-

tion control procedures. A separate “Application Controls” section has therefore not been included in the description provided by the service center. Consequently, the service auditor’s supplemental information relating to general control objectives and application control objectives must be expanded. The “General Control” section would reiterate general control procedures identified by the service center in its description, and it would categorize these procedures by relevant control objectives (in the form of the recommended classifications, previously discussed, or substantial equivalents). The “Application Controls” section would also reiterate control procedures identified by service-center management in its description of the flow of transactions, and it would categorize these procedures by such control objectives as could be achieved only at the service center.

#### Example B

The description provided by the service center has been prepared as indicated in example A above, except for the “General Control Procedures” section, which contains an appropriate level of detail and is presented in terms of the recommended classifications of general controls, with identification of appropriate control objectives. In this second example, the supplemental information provided by the service auditor should include an expanded “Application Control Objectives” section. This section would reiterate control procedures identified by the service center in its description of the flow of transactions, and it would categorize these procedures by such control objectives as appropriate in the circumstances.

When considering how the form of the service center’s description can vary and the resulting effect on the supplemental information provided by the service auditor, an auditor should apply the following guidelines.

1. The most important objective is to increase the utility of a type 1 or type 2 report to user auditors by providing information in a reasonably consistent and understandable form.
2. If the service auditor finds it necessary to categorize control procedures by the objective they were designed to achieve, the control procedures identified in the supplemental infor-



mation provided by the service auditor should also have been included in the description provided by the service center, because it is that description on which the service auditor is reporting.

3. Each major section of the description provided to user auditors (“Overview of Operations,” “Overview of Application Systems,” “General Control Procedures,” “Flow of Transactions Through Significant Accounting Applications,” “Application Controls,” and, optionally, “User Control Considerations”) should be presented *in its entirety*, either in the description provided by the service center or in the supplemental information provided by the service auditor.

### **Applicability of Generally Accepted Auditing Standards**

Although the nature of an auditor’s services in reviewing service-center controls differs from that of an examination of financial statements in accordance with generally accepted auditing standards, the review should be performed in accordance with the general standards and those other standards that are relevant.

In preparing the report, the service auditor refers to the technical information available at the service center. Reviewing technical information creates a need for an appropriate level of proficiency in computer processing, while identifying information relevant to an audit creates a need for adequate training and proficiency as an auditor.

Those responsible for the engagement should have adequate technical training and proficiency as auditors. The service auditor should consider whether specialized computer-related knowledge and skills are needed to understand the flow of transactions, to understand the nature of internal accounting control procedures, or to design and perform testing procedures. If specialized skills are needed, the service auditor should seek the assistance of a professional possessing such skills, who may be either on the service auditor’s staff or an outside professional. If the use of such a professional is planned, the service auditor should have sufficient computer-related knowledge to be able to do the following: communicate the objectives of the other professional’s work; evaluate whether the specified procedures will meet the service auditor’s objectives; and evaluate the results of the procedures applied as they relate to the nature, timing, and extent of other

planned procedures. The service auditor's responsibilities with respect to using such a professional are equivalent to those for other assistants. The need for independence with respect to the service center and due professional care should also be recognized. However, it is neither necessary nor practical to require the service auditor to be independent with regard to each client organization.

## **Special Considerations With Regard to AICPA Rules of Conduct**

The AICPA rules of conduct apply to all services performed in the practice of public accounting, including preparation of a service auditor's report. The service auditor should be independent with respect to the service center under review and should not disclose or use any confidential information obtained in the course of the professional engagement except with the consent of service-center management and users, if appropriate.

### **Conduct of Fieldwork**

If the service auditor is to assist service-center management in drafting its description, fieldwork may be conceptually regarded as consisting of two phases. During the first phase, the service auditor would acquire or update an understanding of the flow of transactions through specific applications and the accounting control procedures that relate to those applications. During the second phase, the service auditor would ordinarily perform procedures, including tracing transactions through the system to confirm understanding and, for type 2 reports, testing for compliance. At the conclusion of the first phase, the auditor may assist the service center in preparing its description; however, this description remains the responsibility of the service-center management. This approach may be particularly beneficial during the preparation of an initial report on a service center. If service-center management prepares its own description, the first phase of fieldwork discussed above may be performed simultaneously with the second.

When the service auditor has obtained the draft description, he should prepare a work program that outlines the procedures to be performed during the second phase of fieldwork. An important step to be completed prior to conducting the second phase of fieldwork is to identify appropriate control objectives. Control objectives identified in both type 1 and type 2 reports should

include at least those objectives that are substantially achievable by the service center alone. These objectives should be carefully defined so that the division of responsibility between the service center and user organization is clearly delineated. The following is an example of a control objective that typically cannot substantially be achieved by the service center alone.

Controls should provide reasonable assurance that client accounting information, once entered into the system, is protected from unauthorized or unintentional modification, addition, or deletion.

Such a control objective typically depends on both the service center and the user. The service center typically provides a general system of access control, but its effectiveness depends on appropriate utilization by the user organization (assignment of passwords, and so forth).

However, if the objective were more carefully defined, it may be substantially achievable by the service center alone. The following is an example of such an objective.

Controls should provide reasonable assurance that client accounting information, once entered into the system, is protected from unauthorized or unintentional modification, addition, or deletion by service-center personnel, other clients of the service center, or by persons other than those that the client has permitted access using properly implemented control procedures provided by the service center.

The extent of procedures applied in connection with a type 1 report is not as extensive as that for a type 2 report. Such procedures generally consist of tracing a limited number of transactions through the system and performing other limited tests, observations, and corroborative inquiries at or near the date specified in the service auditor's opinion. The tests would be considered a walk-through and would not be of sufficient scope to provide a basis for the user auditor to rely on operating and control procedures for restricting the extent of substantive tests.

When the service auditor has been engaged to prepare a type 2 report, tests should be applied to those identified control procedures relating to objectives that service-center procedures alone can reasonably be expected to achieve and, in the judgment of the service auditor, should be of sufficient scope to support an opinion. The compliance tests should be designed to determine if those control procedures described in the report and the degree of compliance with them were sufficient to provide reasonable,

but not absolute, assurance that the control objectives specified were achieved during the period covered by the service auditor's review. To most benefit user auditors, compliance tests performed by the service auditor should be applied to control procedures executed throughout the period being reported on by the user auditor. If customers of the service center have fiscal year-ends distributed throughout the calendar year, the service center may engage the service auditor to issue reports periodically throughout the year (for example, at the end of each calendar quarter). Alternatively, user auditors may request preparation of a type 2 report on a semiannual or perhaps quarterly basis.

The results of compliance tests may suggest that actual control procedures necessary to achieve identified control objectives are not consistent with the description as initially drafted. The service auditor should attempt to have the service center conform the final description to actual operations and control procedures. If the service center does not revise its description to conform with actual procedures, the service auditor should take exception in an opinion. (See appendixes.)

When engaged to prepare a type 1 report, the service auditor is not required to specifically search or test for changes in the described operating environment or application systems that may have occurred prior to the beginning of fieldwork. When engaged to prepare a type 2 report, the service auditor is not required to specifically search or test for changes in the described operating environment or application systems that may have occurred in other than the period to which the service auditor's compliance tests relate.

In the course of performing procedures necessary for either type of report, however, the service auditor may become aware that changes have occurred. The service center may, for example, have installed new source-program library-maintenance software just prior to beginning fieldwork. If the service auditor believes that the changes may significantly affect the ability to achieve the control objectives specified, he should request the service center to include the relevant facts in its description, and he should describe the changes in the supplemental section of his report. If the facts about the changes are not included in the service center's description, the service auditor should include them in supplemental information and refer to such changes in the report. Changes that have occurred more than twelve months prior to the date

being reported on would not ordinarily be considered significant because they generally would not affect the user auditor's work plans. However, the service auditor should refer to all service auditor's reports relating to the service center that have been issued during the twelve-month period before the date of his current report.

## **Representation Letter**

Prior to the issuance of a type 1 or type 2 report, the service auditor would ordinarily obtain a representation letter prepared by the service center's management. The AICPA's *Professional Standards*, AU section 642.35 requires obtaining management representations when conducting a review of internal accounting control. Those applicable to a service auditor's review require obtaining representations indicating that—

- Service-center management acknowledges its responsibility for establishing and maintaining an appropriate system of internal accounting control relating to the information processing performed for users.
- Service-center management has disclosed to the service auditor any significant system changes that have occurred since their last examination.
- Service-center management has disclosed to the service auditor any irregularities by service-center management or employees who have significant roles in the system of internal accounting controls over information processed for user organizations.

In addition, the service auditor should consider also obtaining representations indicating that—

- Service-center management understood the purpose of the review.
- Service-center management supplied the service auditor with all significant, relevant information of which they were aware.
- Service-center management's description fairly and accurately describes the operating and control procedures of the service center and described applications. On engagements in which the service auditor significantly assisted in the preparation of the service center's description, the representation letter should also include a statement that the service center's management acknowledges its responsibility for the description.

- Service-center management understands that the service auditor's review did not extend beyond the operating and control procedures of the service center and described applications and may not have resulted in identification of all internal accounting control weaknesses (that is, failure to achieve an identified control objective related to the processing of user transactions).
- The service auditor's report is intended solely for use by management of the service center, its customers, and the independent auditors of its customers.

The representation letter should bear the same date as the service auditor's report. (Appendix E is an example of such a representation letter.)

## **Chapter 3**

# **Using a Service Auditor's Report**

This chapter provides guidance to the user auditor on how to effectively use a service auditor's report in examining financial statements of a client that uses a service center to process significant accounting data. The nature, timing, and extent of the audit procedures that an auditor may decide to use depends on several factors, including the significance of the transactions processed by the service center and the accounting control procedures of the client's organization relating to those transactions. The significance of the transactions to the financial statements is a matter of the user auditor's judgment.

The nature and extent of a client's accounting control procedures relating to transactions processed by a service center depend on (1) the type of agreement with the service center, (2) the extent of information maintained by the client organization, and (3) the extent and timing of information furnished to the client by the service center. Some arrangements under which clients use service centers and the possible effect such arrangements have on internal accounting control and the user auditor were discussed in chapter 1.

## **Deciding Whether to Obtain a Service Auditor's Report**

The user auditor should nevertheless obtain an understanding of the control environment and the flow of transactions in order to design substantive tests, even if the user auditor does not plan to rely on the system of internal accounting control. This understanding should be in sufficient detail to allow the user auditor to identify the source and availability of data to be used in substantive tests. The user auditor should determine whether a service auditor's report or alternative procedures relating to processing performed by a service center are necessary to understand the flow of transactions at this level of detail.

If the user auditor does plan to rely on the system of internal accounting control, he should complete the review of the system to determine whether the accounting control procedures relating to the accounting applications processed by the service center are suitably designed to provide reasonable assurance that they will prevent or detect errors or irregularities that may occur at various places in the flow of transactions. The user auditor's understanding of the flow of transactions should be sufficient to allow him to identify the source and availability of data to be used in substantive tests, the types of errors and irregularities that may be present within the data, and also the processing points in the flow of transactions where such errors and irregularities could occur.

The user auditor should consider the effectiveness of the specific control procedures, either individually or in combination, in terms of their significance to the prevention or detection of particular types of errors or irregularities relating to particular accounting applications processed by a service center. If one or more specific control procedures are adequate to prevent or detect a particular type of error or irregularity, the user auditor need not consider other procedures. The absence or inadequacy of one specific control procedure designed to prevent or detect a particular type of error or irregularity may not be a weakness if other specific control procedures achieve the same purpose. The information required to review the design of the system is ordinarily obtained through one or more of the following procedures:

- Inquiries of appropriate client personnel
- Inspection of written documentation
- Observation of the processing of transactions and the handling of related assets

When intending to rely on controls, the user auditor should also identify other accounting control procedures that may be necessary for the control procedures applied at those processing points to be effective. The user auditor should determine whether a service auditor's report, a visit to the service center, or the performance of alternative procedures relating to processing performed by the service center (see "Alternatives to Visiting the Service Center" in chapter 1) is necessary to understand the flow of transactions at this level of detail and to identify control procedures on which the user auditor may rely.



After having obtained an understanding of the flow of transactions and having identified related control procedures, the user auditor may decide that control procedures performed solely in the client organization (the effectiveness of which is *not* dependent on computer processing) appear to be sufficient to achieve all the appropriate control objectives relating to particular accounting applications processed by a service center. Of course, the auditor assures that the client organization has satisfactorily complied with the control procedures. There may also be circumstances in which, although the client has not performed control procedures the system design intended, the user auditor can perform procedures that will satisfy him that programmed procedures performed at the service center are reliable. In such circumstances the control procedures of the service center are redundant, and a service auditor's report ordinarily will not be necessary for the user auditor to evaluate the reliance that can be placed on the system of internal accounting control.

If the user auditor decides that a combination of user and service-center control procedures is needed to achieve the client's control objectives, he should determine which control procedures performed at the service center (such as those over editing of input) can be tested effectively at the client organization. For those procedures, a service auditor's report on the design of the service center's system of internal accounting control would normally be sufficient for the user auditor to set up appropriate tests of compliance. Other control procedures performed by the service center, such as those involving program design and changes, can be tested only at the service center. If the user auditor intends to rely on such control procedures, a service auditor's report on the review of design and compliance testing should be obtained. The user auditor should perform tests of compliance himself or request the service auditor to perform the compliance tests and prepare a report relating to the application of agreed-on procedures.

If the user auditor concludes that a report from the service auditor would be helpful, the user auditor should contact the service center through the client organization to determine whether a service auditor's report on the service center's internal accounting controls is available and, if so, which type of report it is. If no report is to be issued or the report to be issued is inappropriate for his purposes and the user auditor cannot influence that decision, he may have to apply procedures at the service center to achieve

his audit objectives or request the service auditor to apply the procedures. If the application processed is critical and the user auditor cannot (1) obtain a suitable report, (2) apply procedures at the service center, or (3) satisfy himself through other procedures, he may have to qualify or disclaim an opinion because of a limitation on the scope of his examination.

## **Evaluating a Service Auditor's Report**

The user auditor remains responsible (1) for evaluating the service center's system of internal accounting control as it affects the audit of the client organization's financial statements and (2) for determining whether the service auditor's report is satisfactory for his purposes. In evaluating whether the service auditor's report is satisfactory, the user auditor should make inquiries concerning the service auditor's professional reputation. Appropriate sources of information concerning the professional reputation of the service auditor are listed in the AICPA's *Professional Standards*, AU section 543.10a. In addition, the user auditor may make inquiries of the service auditor or request to review the service auditor's working papers.

Among the procedures the user auditor should perform on receipt of a service auditor's report are the following:

- Determining whether the type of report is suitable for his purposes, which includes evaluating coverage of the application of concern to him and whether the time period covered by the report is satisfactory for his purposes.
- Reviewing the report for completeness.

## **Types of Service Auditor's Reports and Time Period Covered**

The user auditor should consider whether the type of service auditor's report and the time period covered are suitable for his purposes.

### **Type 1 Report**

A report on the review of design (referred to as a type 1 report in chapter 2) normally relates to a specific date, but it may include comments on significant changes within a period. This type of report includes a description of the system used by the service center to process client transactions and the related internal

accounting control procedures that are relevant to the client. A report on the review of design is suitable for the following: (1) to gain an understanding of the flow of transactions through computerized applications processed by a service center; (2) to gain an understanding of the related control procedures performed at the service center; and (3) to make preliminary judgments about possible reliance on control procedures performed at the service center. A report on design may also be helpful to the user auditor in designing compliance tests and substantive tests at the client location. Such a report is *not* suitable for the purpose of placing reliance on control procedures performed at a service center because it provides no assurance regarding compliance with identified control procedures.

### **Type 2 Report**

A report on the review of design and compliance testing (referred to as a type 2 report in chapter 2) is directed to certain objectives of internal accounting control and, ideally, relates to the user auditor's entire period of intended reliance. This type of report includes a description of the system used by the service center to process client transactions and the related internal accounting control procedures that are relevant to the client. Additionally, a report on the review of design and compliance testing includes identification of control procedures that were compliance tested by the service auditor and the objectives of internal accounting control that the compliance-tested procedures achieved during the period reviewed. Such a report is suitable for the following: (1) to gain an understanding of the flow of transactions through computerized applications processed by a service center; (2) to gain an understanding of the related control procedures performed at the service center; and (3) to rely on those control procedures that were compliance tested and found to be effective by the service auditor.

In considering the suitability of the service auditor's report, the user auditor should determine whether there is sufficient correspondence between the date of the report or period it covers and the period under audit. In determining the suitability of a report on design and compliance as a basis for restricting other audit procedures, the user auditor should consider the guidance provided by the AICPA's *Professional Standards*, AU section 320.70. That guidance indicates that tests of compliance ideally should be applied

to transactions executed throughout the period under audit. This is done because of the general sampling concept that the items to be examined should be selected from the entire set of data to which resulting conclusions are to be applied. Accordingly, a report that includes compliance testing for too short a period may not be of any more use to a user than a report on design only.

In deciding whether tests of compliance need to be applied to the period from the date of the service auditor's report to his client's year-end, the user auditor should consider the guidance provided by the AICPA's *Professional Standards*, AU section 320.70 (as renumbered by SAS No. 48). That section lists factors to be considered by an auditor in deciding whether tests of compliance need to be applied to the period from the date of interim work to a client's year-end. These factors include—

- The results of the tests during the interim period.
- Responses to inquiries concerning the remaining period.
- The length of the remaining period.
- The nature and amount of the transactions or balance involved.
- Evidence of compliance within the remaining period, which may be obtained from substantive tests performed by the independent auditor or from tests performed by internal auditors.
- Other matters the auditor considers relevant in the circumstances.

The user auditor's inquiries concerning the period since the date of the service auditor's last report should include querying the service auditor or the service center about any significant subsequent changes in internal accounting controls and, if the user auditor determines it is necessary, requesting additional procedures.

## **Completeness of the Service Auditor's Report**

The service auditor's report should include the following:

- Service auditor's opinion
- Service center's description
- Service auditor's supplementary information

The content of each of these major sections was discussed in detail in chapter 2. In evaluating a service auditor's report, the user

auditor should be aware of the types of matters considered by the service auditor in preparing a report. Examples of such matters follow.

- General and application control weaknesses (that is, failures to achieve specified control objectives), if identified, should be reported.
- If other service auditors' reports were issued during the twelve-month period before the date of the service auditor's current report, the service auditor's report may refer to them.
- If the service auditor becomes aware of changes in procedures that occurred during the twelve-month period preceding the date of his opinion, and these changes may have affected the achievement of certain control objectives, reference should be made to the control objectives affected and the approximate date of the changes in procedures.

If there is no disclosure of such matters, the user auditor may assume the service auditor did not encounter any control weaknesses or other unusual circumstances.

The user auditor may find it useful to obtain additional information through discussions with the service auditor. In certain cases, it may be appropriate for the user auditor to request the service auditor to perform additional procedures.

## **Use of the Service Auditor's Report in the Evaluation of Internal Accounting Control**

The user auditor should consider controls in effect at the service center and identified control weaknesses, if any, to be part of the client organization's system of internal accounting control. Weaknesses may include (a) control procedures that have been described by the service center as existing but are not present or (b) control procedures that are not included in the design of the service center's system of internal accounting control but are, in the judgment of the service auditor, necessary to achieve certain control objectives. Weaknesses identified by the service auditor may not be weaknesses in the client organization's overall system of internal accounting control because the client organization may perform control procedures that prevent or detect errors or irregularities not prevented or detected by the service center's control procedures.

Evaluation of compliance with internal accounting control procedures is ordinarily based on a combination of inquiry, observation, tests of the details of transactions, or other means of investigation. The user auditor needs to determine whether a service auditor's report on design and compliance that is limited to those objectives that the service center can reasonably be expected to achieve is satisfactory for his purposes. If the report is satisfactory, it should state whether the control procedures and the degree of compliance with them were sufficient to provide reasonable, but not absolute, assurance that the specific control objectives identified were achieved for the period reported on.

The information provided in a report covering design and compliance, when combined with his knowledge of control procedures in place at the client organization, should provide the user auditor with the ability to evaluate questions such as these:

- Do controls provide reasonable assurance that application programs and systems are designed, implemented, and maintained in accordance with management's general or specific authorization?
  - Do organizational controls within the service center provide for adequate supervision and segregation of functions within EDP and between EDP users? Are there procedures that provide controls over systems development and access to systems documentation? Are there controls over program and systems maintenance? Are there controls over computer operations, including access to data files and programs? Are there controls that assure completion of file reconstruction and processing recoveries? Do the internal auditors become involved in the review and testing of EDP accounting controls?
- Do controls over input provide reasonable assurance that data received for processing has been authorized and that data has not been lost, suppressed, added, duplicated, or otherwise improperly changed?
- Do controls over processing provide reasonable assurance that processing has been performed as intended for the particular application—that is, that all data is processed as authorized, that no authorized data is omitted, and that no unauthorized data is added?

- Do controls over output provide reasonable assurance that the processing results are accurate and that only authorized personnel receive the output?

After considering the service auditor's report on design and compliance, the user auditor may conclude that internal accounting control procedures within the overall system appear to provide a basis for reliance thereon and for restricting the extent of substantive tests.

If the report of the service auditor discloses control concerns, either in the design of the service center's system of internal accounting control or in the extent of compliance with prescribed procedures, and the client does not have any compensating control procedures, the user auditor will need to assess the effect of such weaknesses and consider the need to change his intended scope of tests.

Some service auditors may include a section on user control considerations. Such a section would contain procedures that the service center system's designers contemplated being in place at user locations for the application to achieve appropriate objectives. The user auditor may wish to determine if the user procedures identified in the section on user control considerations of the service auditor's report are performed by the client.

## **Other Considerations**

### **Establishing a User Auditors' Group**

A service auditor's report on a service center is normally requested by the service center. It can, however, be requested by a group of user auditors. If several user auditors need to gain an understanding of a specific data processing system, establishing a user auditor's group to define the service auditor's report objectives should be considered. The primary benefits of such a group include the unified definition of user auditors' specific needs and a framework for the user auditors in planning an efficient audit.

In planning an engagement to report on an application processed by a service center, the service auditor normally defines the nature and scope of his review and compliance-testing procedures; a user auditors' group can provide meaningful input into this process, and the service auditor may want to consider contacting the user

group. A user auditors' group may provide input on such matters as—

- The timing and extent of interview, examination, and observation techniques expected.
- Use of computer-assisted audit techniques.
- Estimation and allocation of cost.
- Identification of participating user auditors.
- The timing of fieldwork and report preparation.
- Consideration of alternatives.

### **Referring to a Service Auditor's Report**

The service auditor's report is used by the user auditor primarily as part of the study and evaluation of the client organization's system of internal accounting control. The service auditor's report helps the user auditor to determine the nature, timing, and extent of audit procedures. The user auditor exercises professional judgment in selecting the audit procedures to be applied in the circumstances. Accordingly, in reporting on his examination of the financial statements, the user auditor should not refer to the service auditor's report as a basis, in part, for his own opinion because there cannot be a meaningful indication of a division of responsibility for the examination of the financial statements. The service auditor's report is used by the user auditor as part of the evidential matter gathered to support his opinion but, regardless of the materiality of the amounts involved, the service auditor is not responsible for examining a portion of the financial statements as of any specified date or for any specified period of time. If the user auditor uses the service auditor's report in an engagement to express an opinion on his client's system of internal accounting control, the user auditor may decide to refer to the service auditor's report in accordance with the guidance given in SAS No. 30, *Reporting on Internal Accounting Control*, paragraph 45. In this case, the portion of the system that is the responsibility of the service auditor can be specifically identified.

### **Special Requests**

User auditors and service-center management should be aware that certain government agencies have issued pronouncements relative to service auditor's review procedures. Two examples are the following.



*Agency*

Federal Home Loan Bank

*Pronouncement*

PA-7-1a, "Minimum Audit  
Scope: Insured Institution  
EDP Review"

Federal Financial Institutions

Examination Council

EDP Examination Handbook

These, and similar documents, discuss specific requirements in addition to those discussed in this guide. These include timing of the review, reporting of weaknesses noted, contract provisions, and compliance-testing procedures.

## Appendix A

# Illustrative Service Auditor's Report—Type 1 Report

### Reporting Results of a Review of System Design NO UNUSUAL CIRCUMSTANCES

Example Service Company:

We have reviewed the accompanying description of the operations and control procedures of Example Service Company related to its Bank Accounting Management System as of [date] and identified specific control objectives and the procedures we considered necessary in the circumstances to evaluate the design of the control procedures specified in the accompanying supplemental information. We did not test compliance with the procedures and, accordingly, we do not express an opinion on whether those controls were being applied as prescribed for any period of time or on whether the system, taken as a whole, meets the objectives of internal accounting control. *[Our review did not extend to procedures performed by customers of Example Service Company. The effectiveness of procedures performed by a customer should be considered in evaluating the system of internal accounting control related to a customer's processing of transactions through the Bank Accounting Management System.]* A further description of our review and its objectives is attached.

Because of inherent limitations in any system of internal accounting control, errors or irregularities may occur and not be detected. Also, projection of any evaluation of the system to future periods is subject to the risk that control procedures may become inadequate because of changes in conditions.

In our opinion, the control procedures included in the accompanying description of the Bank Accounting Management System of Example Service Company as of [date] are suitably designed to provide reasonable, but not absolute, assurance that the control objectives specified in the accompanying supplemental information would be achieved if the control procedures were complied with satisfactorily.

This report is intended solely for use by management of Example Service Company, its customers, and the independent auditors of its customers.

Signature

## **Type 1 Report CONTROL EXCEPTION**

In any type 1 report where the service auditor has identified control weaknesses in his supplemental information, the opinion should be modified to read as follows:

In our opinion, except for those instances where control objectives have not been achieved and have been described as weaknesses in the accompanying supplemental information, the control procedures included in the accompanying description of the Bank Accounting Management System of Example Service Company as of [date] are suitably designed to provide reasonable, but not absolute, assurance that the control objectives specified in the accompanying supplemental information would be achieved if the control procedures were complied with satisfactorily.

All other paragraphs would be identical to those in an opinion issued when no unusual circumstances were encountered while preparing a type 1 report. The service auditor's control concerns must be further described in the supplemental information provided.

## Appendix B

# Illustrative Service Auditor's Report—Type 2 Report

### Reporting Results of a Review of Design and Compliance Testing

#### NO UNUSUAL CIRCUMSTANCES

Example Service Company:

We have reviewed the accompanying description of the operations and control procedures of Example Service Company related to its Bank Accounting Management System and identified specific control objectives and the procedures that achieve those objectives. Our review, covering the period from [date] to [date], included such tests as we considered necessary to evaluate whether the procedures described in the accompanying supplemental information and the extent of compliance with them are sufficient to provide reasonable, but not absolute, assurance that the control objectives specified therein were achieved. We tested compliance only with the control procedures listed in the supplemental information. Accordingly, we do not express an opinion on whether all of the controls discussed in the accompanying description were being applied as prescribed for any period of time or on whether the system, taken as a whole, meets the objectives of internal accounting control. *[Our review did not extend to procedures performed by customers of Example Service Company. The effectiveness of procedures performed by a customer should be considered in evaluating the system of internal accounting control related to a customer's processing of transactions through the Bank Accounting Management System.]* A further description of our review and its objectives is attached.

Because of inherent limitations in any system of internal accounting control, errors or irregularities may occur and not be detected. Also, projection of any evaluation of the system to future periods is subject to the risk that procedures may become inadequate because of changes in conditions or that the degree of compliance with the procedures may deteriorate.

In our opinion, the control procedures of the Example Service Company Bank Accounting Management System described in the accompanying supplemental information and the degree of compliance with them were sufficient to provide reasonable, but not absolute, assurance that the control objectives specified therein were achieved for the period from [date] to [date].

This report is intended solely for use by management of Example Service Company, its customers, and the independent auditors of its customers.

Signature

## **Type 2 Report**

### **CONTROL EXCEPTION**

In any type 2 report where the service auditor has identified control weaknesses in his supplemental information, the opinion should be modified to read as follows:

In our opinion, except for those instances where control objectives have not been achieved and have been described as weaknesses in the accompanying supplemental information, the control procedures of the Example Service Company Bank Accounting Management System described in the accompanying supplemental information and the degree of compliance with them were sufficient to provide reasonable, but not absolute, assurance that the control objectives specified therein were achieved for the period from [*date*] to [*date*].

All other paragraphs would be identical to those in an opinion issued when no unusual circumstances were encountered while preparing a type 2 report. The service auditor's control concerns must be further described in the supplemental information provided.

## Appendix C

# Illustrative Type 1 Report— Review of Design

In this illustration, Example Service Company's description is in the form anticipated by user auditors; that is, control procedures are categorized by control objective, and other information is given in appropriate detail. If the description had not been in this form, the service auditor's supplemental information would further explain any or all of the sections: "Overview of Operations," "Overview of Application Systems," "General Control Procedures," "Flow of Transactions Through Significant Accounting Applications," "Application Controls," and optionally, "User Control Considerations." To the extent that it is considered necessary to further explain these sections in the service auditor's supplemental information, the entire section should be included therein. For further clarification, see "Form and Content of the Supplemental Information Provided by the Service Auditor," in chapter 2.

Example Service Company's "General Control Procedures" section is represented by one of many pages to illustrate the form anticipated by user auditors. The balance of "General Control Procedures" would include subsections pertaining to system development and documentation, hardware and system software, access, and data and procedures in addition to the subsection on organization and operation, partially illustrated herein. Likewise, "Flow of Transactions Through Significant Accounting Applications," "Application Controls," and "User Control Considerations" are represented by one of many pages to illustrate the recommended form.

Exhibit C is referenced on the flowchart presented as exhibit B in order to depict the point in processing where the described reports are produced. The other exhibits referenced in exhibit B would be identical in form.

## Example Service Company Bank Accounting Management System

### *Table of Contents*

Description Provided by Example Service Company

- Overview of Operations
- Overview of Application Systems
- General Control Procedures
  - Organization and Operation
  - System Development and Documentation\*
  - Hardware and System Software\*

|  |  |
|--|--|
| Access*  |  |
| Data and Procedural*   |  |
| Flow of Transactions Through the Bank Accounting Management System                                 |  |
| On-Line Processing   |  |
| Card/Disk Entry  |  |
| MICR Entry   |  |
| Sort and Edit  |  |
| Update*  |  |
| Report Preparation*  |  |
| General Ledger Update*   |  |
| General Ledger Reporter*   |  |
| Marketing Reporters*   |  |
| Restructure*   |  |
| Application Controls Within the Bank Accounting Management System                                  |  |
| On-Line Processing   |  |
| Off-Line Processing*   |  |
| User Control Considerations  |  |
| Supplemental Information Provided by the Service Auditor   |  |
| Objectives of the Review   |  |
| Control Objectives Achieved  |  |
| Weaknesses and Recommendations   |  |
| Exhibits   |  |
| A Example Service Company: Data Center Organization Chart  |  |
| B Example Service Company: Bank Accounting Management System—Off-Line Processing Flow Transactions |  |
| C Bank Accounting Management System Principal Reports  |  |
| D Principal General Ledger Reports*  |  |
| E Principal Marketing Reports*   |  |

## **Description Provided by Example Service Company**

### **Overview of Operations**

Example Service Company (ESC) is located in Anytown, State, and provides data processing services to nine customer banks. Teller activity is entered into an on-line system through more than thirty terminals connected to the data center via dedicated communication lines. Monetary transactions are posted by the on-line system only as a reference; actual updating of account balances occurs during subsequent off-line processing, when hard-copy input is processed at the data center. Presently, all ESC customer banks use only the off-line portions of the system described in this report. The data center processes more than thirty thousand transactions daily to service approximately ninety thousand customer accounts.

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\* Indicates sections not present in this illustrative report.

All application systems are processed on an ABC model 711x central processor supported by various peripheral devices. Customers may select, acquire, and maintain terminal equipment. All terminal equipment, however, must meet ESC approval regarding compatibility with ESC hardware and software. Off-line application software is ABC/BAM Release 1; on-line telecommunications software is ABC/OL.

The ESC data center employs a staff of twenty, organized as shown in exhibit A. The principal functional areas on the organization chart are as follows:

- *Systems and Programming.* Maintain application programs, develop minor program products, and convert customer organizations to ESC systems.
- *Data Communications.* Maintain the on-line network and related programs and assist with program development and customer conversion.
- *Operations.* Perform data transcription, input-output control, computer scheduling and operation, and report distribution.

## **Overview of Application Systems**

ESC's Bank Accounting Management System allows the integration of processing functions normally associated with the following separate banking applications:

- *Demand Deposits.* The system includes processing of regular, special, and commercial demand deposit accounts (DDA) as well as dealer reserve accounts used in conjunction with installment loans.
- *Check Loans.* Check loans are an extension of demand deposits. Advances will be granted only when overdraft codes and limits have been properly established. The system design generally assumes that payments will be made automatically by deducting a previously determined payment amount from the DDA and the check loan outstanding balance on the due date. The system will also accept external payments.
- *Savings.* Each bank may define up to seven savings plans. The system handles regular and golden savings accounts, certificates of deposit, and varied types of savings club accounts. Golden savings accounts are typically characterized by higher interest rates, minimum balance requirements, and withdrawal restrictions. Individual accounts may be designated as passbook or statement accounts.
- *Installment Loans.* The system handles partial or full payments and payments to current balances or late charges. Up to nine irregular payment schedules may be specified. The system provides for cancellation, early payoffs, and payouts by refinancing or assumption.
- *Mortgage Loans.* The system provides for many different types of loan payments as well as for temporary and permanent extensions, cancellations, early payoffs, and payouts by refinancing or assumption. Complete escrow accounting is also provided.



- *General Ledger.* The general ledger subsystem provides a daily statement of financial condition and an income and expense summary.

Each of the aforementioned applications is functionally independent; however, for some transactions there will be interaction between applications. Users may make automatic transfers from their DDA to other accounts, such as those for making loan payments or for systematic savings. Savings interest earned may be credited to DDA or other savings accounts, and savings accounts may be used to make loan payments automatically. Installment-loan dealer reserve accounts are automatically transferred to the related DDA dealer reserve account.

Each customer bank may customize its system through various processing and reporting options. Specialized reports may be requested. Such “system tailoring” generally is not considered to negate the understanding of the flow of transactions and basic structure of internal accounting control provided in this report. ESC also processes a payroll application for certain customer banks. The payroll application is not further described herein.

## **General Control Procedures**

General controls apply to all computer-related activities and are considered basic to the effectiveness of specific application controls. It is important to understand these general controls in evaluating controls within specific applications. Various categories of general controls are discussed below in terms of control objectives, and they are followed by descriptions of control procedures employed by ESC to assist in attaining the indicated objective.

### **Organization and Operation**

*Objective.* The data center is organized to provide adequate internal segregation of duties and functions.

*Controls.* As illustrated in exhibit A, and otherwise described herein, the ESC data center is organized to provide segregation of these functions:

- Designing systems and programming
- Operating the data center
- Entering input
- Balancing output

There are no individuals within ESC who have duties related to more than one of these functions. Additionally, access controls, discussed elsewhere, help to enforce this segregation of functions.

*Objective.* Data center and user functions are structured so that appropriate segregation is maintained.

*Controls.* The fact that ESC is a separate corporate entity provides a certain amount of inherent segregation of functions. In addition, data-center employees are not authorized (1) to initiate, authorize, or initially record application transactions; (2) to change or modify user files except through normal production procedures; or (3) to correct user errors. The data center manager performs the customer service function, thereby assuring that client service requests receive appropriate priority.

*Objective.* An EDP review and verification function is performed by internal auditors.

*Controls.* ESC's internal auditor utilizes an audit software package to perform various recalculations, analyses, and confirmation work relating principally to ESC accounts not maintained by the Bank Accounting Management System. All work is adequately planned and is performed according to a preestablished schedule. Formal reports are prepared and submitted to the ESC audit committee as necessary. All data processing service-request forms generated by ESC personnel are approved by the internal auditor. (See the "System Development and Documentation" subsection of this description.)\*

## **Flow of Transactions Through the Bank Accounting Management System**

The Bank Accounting Management System utilizes one master file that contains all customer records. Each customer is identified by a single number, and each of the customer's accounts is identified by a type-of-account code suffixed to the basic customer number. The master file is composed of three major types of records. Identification records contain relatively static information pertaining to either a customer or an account (name and address, account options, and similar information). Detail records are used to maintain customer history and account transaction detail. Accounting records contain balance amounts, stop and hold information, and similar information. In addition to the identification, detail, and accounting records, the master file contains (a) bank header records, used for recording bank options; (b) bank trailer records, used largely for control purposes, as described below; and (c) various other system records, used to indicate the end of a file or section.

The flow of transactions discussed herein represents a summarized description of the system. It is intended to provide the reader with an overview of the flow of information through the Bank Accounting Management System, together with the more significant control features within it. Unless otherwise noted, each section below corresponds with a processing block in exhibit B, the flowchart.

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\* Note: The System Development and Documentation subsection is not included in this illustration.

### **On-Line Processing**

On-line processing is not represented in exhibit B, because monetary transactions are posted only as a reference by the on-line system. This portion of the . . .

### **Card/Disk Entry**

The transaction disk file is processed to create a separate disk file containing only stop and hold transactions. These are the only transactions that are entered on-line and passed to off-line processing, as depicted in exhibit B. Card inputs include new account and file maintenance transactions . . .

### **MICR Entry**

MICR input items are read, validated, sorted, and written to the transaction file during this processing. Batch control totals and item sequence numbers are used to provide an audit trail. Transit numbers on inputs are compared . . .

### **Sort and Edit**

Sort and edit programs are executed after all the day's transactions have been captured through the card/disk and MICR entry runs. Inputs are arranged in the sequence required for master-file update, deletions are made as . . .

## **Application Controls Within the Bank Accounting Management System**

Application controls are addressed below in the general context of on-line and off-line processing. In each case, control objectives are stated first, followed by control procedures that appear within the data processing system and assist in achieving the objective indicated.

### **On-Line Processing**

*Objective.* Transactions input at outlying terminals are authorized and accurate.

*Controls.* An internal terminal unit table is used to relate individual terminals to specific banks, and terminal operators must execute the sign-on procedure correctly with a valid operator identification number in order to gain access to the central information file system. Terminal operators must also possess the proper key to physically unlock terminals. Input transactions are edited for valid formats and transaction codes. Certain transactions are rejected for the originating terminal. Processing against individual accounts may be further controlled through use of various hold codes. Some transactions require supervisory override before their processing can be completed.

*Objective.* Transactions input at outlying terminals are received and completely processed by the central computer.

*Controls.* The on-line programs are written so that appropriate responses to an outlying terminal indicate processing is complete. Lack of an appropriate response indicates a system problem or terminal operator error.

Transactions having a monetary impact on operations affect various teller totals, which are continually updated by the system. These totals must be considered in the daily cash balancing procedures. Effective and timely balancing provides assurance that all monetary transactions entered have been received by the system.

## **User Control Considerations**

ESC and system users sign a service contract that includes the following general provisions:

- ESC will safeguard data submitted by user organizations to the extent its own data is protected.
- Programs utilized by ESC in processing user organization data remain the sole property of ESC.
- ESC balances input data to user-generated totals, but the user assumes responsibility for data accuracy and report balancing.
- Users may acquire their data files upon contract termination, after all service charges have been paid.

Each user receives ESC training at the time of initial file conversion and a standards manual, which is updated whenever a new version of the processing system is implemented. Problems and special requests are reported or submitted through data center management. Each user should assign one individual to work with data center management in this regard. Requests for additions or changes to the contracted service must be made in writing and should include all specifications for the addition or change.

Based on the Bank Accounting Management System as processed at the data center, it appears that the following measures, if effectively employed by users, would serve to complement controls provided within the context of Bank Accounting Management System services. The user control considerations that follow should not be regarded as a comprehensive list of all internal accounting controls that should be employed by users.

*Objective.* Transactions input at outlying terminals are authorized and accurate.

*User Control Considerations.* Only adequately trained personnel should be allowed access to terminals. Terminal operator activity should be logged on prenumbered, hard-copy forms that are adequately controlled and, if possible, locked into the terminal during processing. Teller keys should be controlled by a responsible person who does not serve as a

teller. Access to those terminals having neither physical key control nor continuous paper logs should be limited.

*Objective.* Transactions input at outlying terminals are received and completely processed by the central computer.

*User Control Considerations.* As above . . .

## **Supplemental Information Provided by the Service Auditor**

### **Objectives of the Review**

This report on review of design is intended to provide interested parties with information sufficient to understand the flow of transactions and the basic structure of accounting control within Example Service Company's (ESC's) Bank Accounting Management System. This report, when coupled with an understanding of internal accounting controls in place at user locations, is intended to permit evaluation of the total system of internal accounting control surrounding transactions processed through the Bank Accounting Management System.

Our review was restricted to selected services provided to system users by ESC and, accordingly, did not extend to procedures in effect at user locations. It is each interested party's responsibility to evaluate this information in relation to procedures in place at each user location in order to assess the total system of internal accounting control. The user and ESC portions of the system must be evaluated together. If effective user controls are not in place, the data center controls may not compensate for such weaknesses.

Our review included interviews with key personnel, review of available documentation and security procedures, and observation and inspection of certain controls surrounding and provided by the Bank Accounting Management System. Our procedures were performed as of [date] and were designed only to clarify our understanding of the information contained in the attached description.

Auditors using this report as part of their review of a user's system of internal accounting control may conclude that internal accounting control procedures within ESC's Bank Accounting Management System appear to provide a basis for reliance thereon and for restricting the extent of their substantive tests. In this event they should consider the need for either the application of agreed-on procedures or an extended review and compliance testing, and they are encouraged to contact ESC in this regard. Alternatively, user auditors may elect not to rely on accounting control procedures within ESC's Bank Accounting Management System. In that event they should accomplish their audit objectives by other means.

The objectives of data processing controls are to provide reasonable, but not absolute, assurance about such things as—

- Proper handling of input and output data records.
- Reliable processing of data records.
- Protection of data files, programs, and equipment against loss or destruction.
- Prevention of unauthorized use of data records, programs, and equipment.

The concept of reasonable assurance recognizes that the cost of a system of internal accounting control should not exceed the benefits derived and, additionally, that evaluation of internal accounting control necessarily requires estimates and judgments by management.

### **Control Objectives Achieved**

Based on our review of the design of control procedures, it appears that the control procedures described, if complied with satisfactorily, would be sufficient to achieve, in all significant respects, the following control objectives.

#### **General Controls**

1. The data center is organized to provide adequate internal segregation of duties and functions.
2. Data center and user functions are structured so that appropriate segregation is maintained.

(While not illustrated here, this section would go on to list all relevant control objectives stated in the "General Control Procedures" and "Application Controls" sections of ESC's description.)

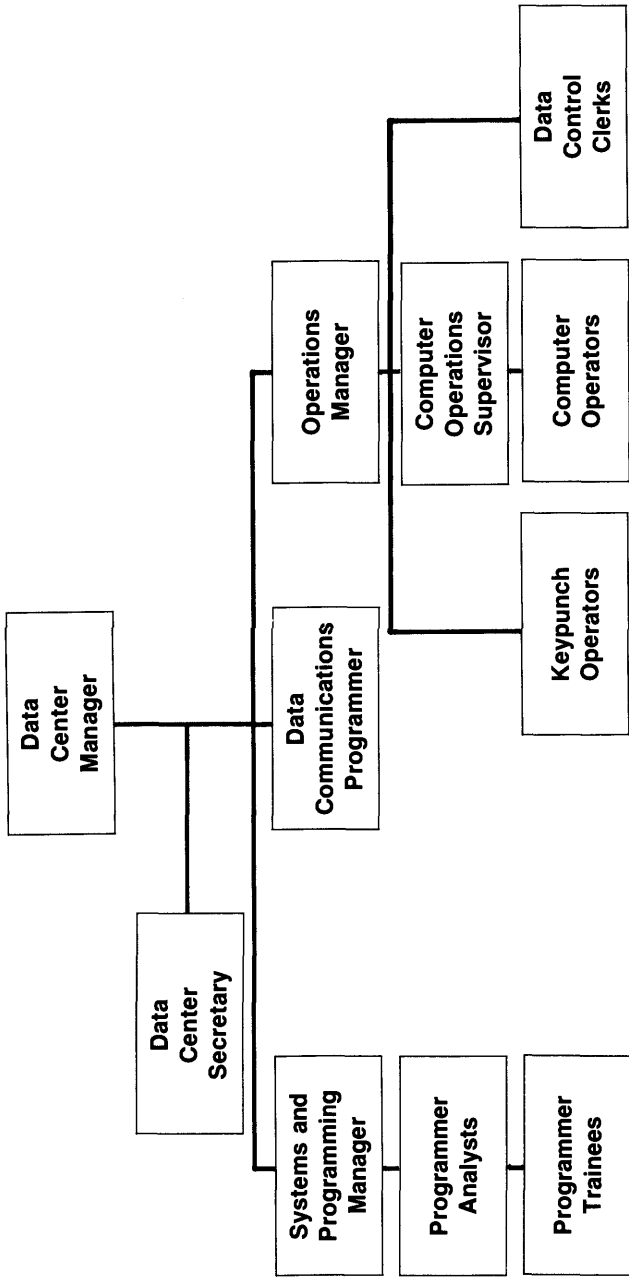
### **Weaknesses and Recommendations**

In the attached description, Example Service Company has described certain control objectives and related control procedures employed at the data center and within its Bank Accounting Management System. If the control procedures described were not sufficient to achieve related control objectives when considered without regard to the effectiveness of user control procedures, the related objective is repeated and weaknesses are identified. Weaknesses identified in this section are not necessarily weaknesses in a user's total system of internal accounting control; that determination can be made only after considering procedures in place at user locations. Recommendations for improvement have been provided to ESC under separate cover.

*Objective.* An EDP review and verification function is performed by internal auditors.

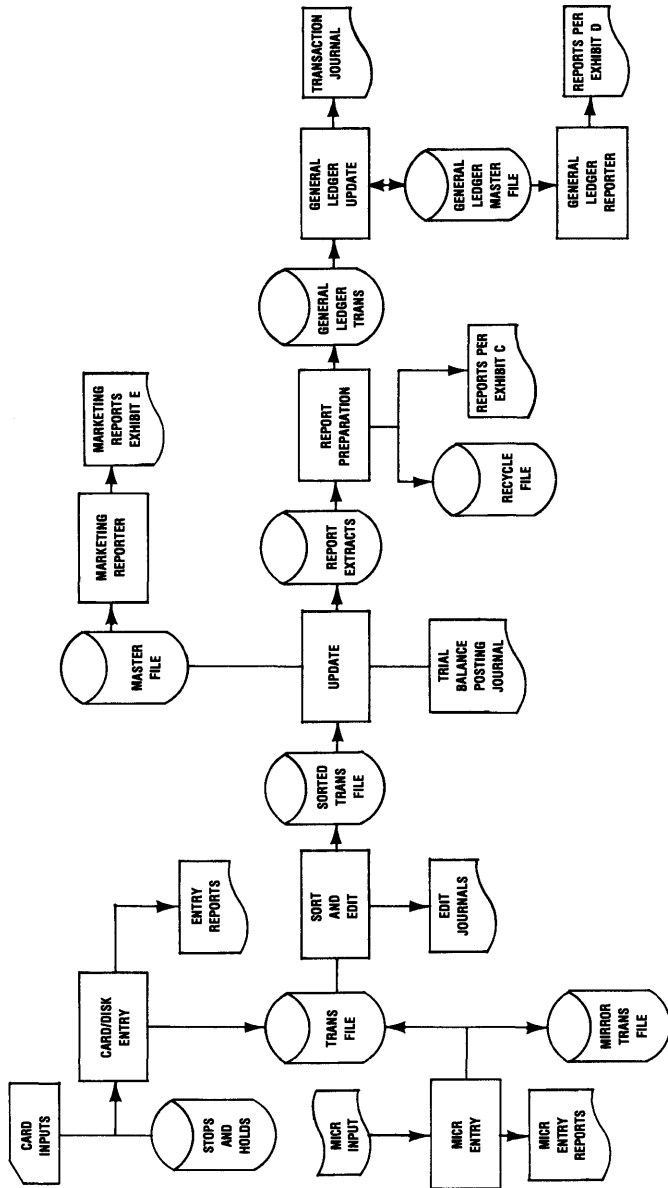
*Weakness.* The internal auditor does not monitor the general controls of the data center or the control procedures within the Bank Accounting Management System.

**Example Service Company  
Data Center Organization Chart**



# EXHIBIT B

## Example Service Company Bank Accounting Management System—Off-Line Processing Flow of Transactions





**Bank Accounting Management System  
Principal Reports**

|  |   |
|--|---|
| New Customer Account Report                  | Lists new and converted account and customer information, providing a means to validate new file information. The summary totals provide new business analysis data.  |
| Miscellaneous Income Assessed and Collected  | Indicates, for all applications, the source and reason for miscellaneous income amounts, such as those resulting from service/late charges, cancellation fees, and so on.   |
| Waived Service/Late Charges                  | Indicates, for all applications, waived service/late charge amounts.  |
| Automatic Internally Generated Debit/Credits | Provides a record of amounts automatically transferred between accounts, such as those for automatic loan payments, and internally generated debits and credits for disposition of service charge amounts, and so on.   |
| Unposted Transaction Journal                 | Lists all transactions input on a given day that were not posted to an account or reference record, along with the reason why the transaction could not be posted. Indicates the batch number of the transaction as well as the transaction code and amount/data entered. |
| New and Released Stops and Holds             | Indicates DDA and savings accounts on which stops and holds have been newly established or released.  |
| Dormant and Inactive Account Activity        | Lists DDA and savings accounts that were entered or removed from either a dormant or inactive status. Also indicates dormant and inactive accounts that had activity by showing the transaction code and the transaction amount.  |

## **Appendix D**

# **Illustrative Type 2 Report— Review of Design and Compliance Testing**

In this illustration Example Service Company's description is not in the form anticipated by user auditors in that it does not categorize procedures by control objective. The service auditor's supplemental information contains expanded sections pertaining to general control procedures and application controls. Here the service auditor has listed for each control objective those procedures that were in the service center description for which tests of compliance were performed. Neither the service auditor nor Example Service Company elected to provide the optional section on user control considerations.

"General Data Processing Procedures and Controls" as well as "Flow of Transactions Through the Bank Accounting Management System" in Example Service Company's description are represented by one of many pages, as are "General Control Procedures" and "Application Controls Within the Bank Accounting Management System" in the service auditor's supplemental information.

Exhibit C is referenced on the flowchart presented as exhibit B in order to depict the point in processing where the described reports are produced. The other exhibits referenced in exhibit B would be identical in form.

### **Example Service Company Bank Accounting Management System**

#### ***Table of Contents***

#### **Description Provided by Example Service Company**

- Overview of Operations**

- Overview of Application Systems**

- General Data Processing Procedures and Controls**

  - Organization and Administration**

  - Application Development, Maintenance, and Documentation\***

  - Hardware and System Software\***

  - Access\***

  - Data and Procedural\***

  - Recovery and Backup\***

- Flow of Transactions Through the Bank Accounting Management System**

  - On-Line Processing**

  - Card/Disk Entry**

- MICR Entry
- Sort and Edit
- Update\*
- Report Preparation\*
- General Ledger Update\*
- General Ledger Reporter\*
- Marketing Reporters\*
- Restructure\*

Supplemental Information Provided by the Service Auditor

- Objectives of the Review
- Control Objectives Achieved
- Weaknesses and Recommendations
- General Control Procedures
  - Organization and Operation
  - System Development and Documentation\*
  - Hardware and System Software\*
  - Access\*
  - Data and Procedural\*
- Application Controls Within the Bank Accounting Management System
  - On-Line Processing
  - Off-Line Processing\*

Exhibits

- A Example Service Company: Data Center Organization Chart
- B Example Service Company: Bank Accounting Management System—Off-Line Processing Flow Transactions
- C Bank Accounting Management System Principal Reports
- D Principal General Ledger Reports\*
- E Principal Marketing Reports\*

## **Description Provided by Example Service Company**

### **Overview of Operations**

Example Service Company (ESC) is located in Anytown, State, and provides data processing services to nine customer banks. Teller activity is entered into an on-line system through more than thirty terminals connected to the data center via dedicated communication lines. Monetary transactions are posted by the on-line system only as a reference; actual updating of account balances occurs during subsequent off-line processing, when hard-copy input is processed at the data center. Presently, all ESC customer banks use only the off-line portions of the system described in this report. The data center processes more than thirty thousand transactions daily to service approximately ninety thousand customer accounts.

All application systems are processed on an ABC Model 711x central processor supported by various peripheral devices. Customers may select,

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\* Indicates sections not present in this illustrative report.

acquire, and maintain terminal equipment. All terminal equipment, however, must meet ESC approval regarding compatibility with ESC hardware and software. Off-line application software is ABC/BAM Release 1; on-line telecommunications software is ABC/OL.

The ESC data center employs a staff of twenty, organized as shown in exhibit A. The principal functional areas on the organization chart are as follows:

- *Systems and Programming.* Maintain application programs, develop minor program products, and convert customer organizations to ESC systems.
- *Data Communications.* Maintain the on-line network and related programs and assist with program development and customer conversion.
- *Operations.* Perform data transcription, input-output control, computer scheduling and operation, and report distribution.

## Overview of Application Systems

ESC's Bank Accounting Management System allows the integration of processing functions normally associated with the following separate banking applications.

- *Demand Deposits.* The system includes processing of regular, special, and commercial demand deposit accounts (DDA) as well as dealer reserve accounts used in conjunction with installment loans.
- *Check Loans.* Check loans are an extension of demand deposits. Advances will be granted only when overdraft codes and limits have been properly established. The system design generally assumes that payments will be made automatically by deducting a previously determined payment amount from the DDA and the check loan outstanding balance on the due date. The system will also accept external payments.
- *Savings.* Each bank may define up to seven complete savings plans. The system handles regular and golden savings accounts, certificates of deposit, and varied types of savings club accounts. Golden savings accounts are typically characterized by higher interest rates, minimum balance requirements, and withdrawal restrictions. Individual accounts may be designated as passbook or statement accounts.
- *Installment Loans.* The system handles partial or full payments and payments to current balances or late charges. Up to nine irregular payment schedules may be specified. The system provides for cancellation, early payoffs, and payouts by refinancing or assumption.
- *Mortgage Loans.* The system provides for many different types of loan payments as well as for temporary and permanent extensions, cancellations, early payoffs, and payouts by refinancing or assumption. Complete escrow accounting is also provided.
- *General Ledger.* The general ledger subsystem provides a daily statement of financial condition and an income and expense summary.

Each of the aforementioned applications is functionally independent; however, for some transactions there will be interaction between applications. Users may make automatic transfers from their DDA to other applications, such as those for making loan payments or for systematic savings. Savings interest earned may be credited to DDA or other savings accounts, and savings amounts may be used to make loan payments automatically. Installment-loan dealer reserve accounts are automatically transferred to the related DDA dealer reserve account.

Each customer bank may customize its system through various processing and reporting options. Specialized reports may be requested. Such “system tailoring” generally is not considered to negate the understanding of the flow of transactions and basic structure of internal accounting control provided in this report. ESC also processes a payroll application for certain customer banks. The payroll application is not further described herein.

## **General Data Processing Procedures and Controls**

General data processing procedures and controls create a framework for developing and processing applications and encompass the following:

- Organization and administration
- Application development, maintenance, and documentation
- Hardware and system software
- Access to computer equipment, programs, and data files
- Data and procedural controls
- Recovery and backup capability

### **Organization and Administration**

The following administrative policies and procedures are in effect at ESC’s data center:

- An organization chart is maintained by each major functional unit.
- Personnel practices, including contacting prior employers and pre-employment physical examinations, have been formalized in writing.
- The progress of each employee is periodically reviewed with the employee.
- Exit interviews are held with terminated employees.
- Data entry employees are not permitted to do the following: (a) to initiate, authorize, or initially record application transactions; (b) to change or modify user files except through normal production procedures; or (c) to correct user errors.
- The data-center manager performs the customer service function, thereby assuring that client service requests receive the appropriate priority.
- The internal auditor utilizes an audit software package.

## **Flow of Transactions Through the Bank Accounting Management System**

The Bank Accounting Management System utilizes one master file that contains all customer records. Each customer is identified by a single number, and each of the customer's accounts is identified by a type-of-account code suffixed to the basic customer number. The master file is composed of three major types of records. Identification records contain relatively static information pertaining to either a customer or an account (name and address, account options, and similar information). Detail records are used to maintain customer history and account transaction detail. Accounting records contain balance amounts, stop and hold information, and similar information. In addition to the identification, detail, and accounting records, the master file contains (a) bank header records, used for recording bank options; (b) bank trailer records, used largely for control purposes, as described below; and (c) various other system records, used to indicate the end of a file or section.

The flow of transactions discussed herein represents a summarized description of the system. It is intended to provide the reader with an overview of the flow of information through the Bank Accounting Management System, together with the more significant control features within it. Unless otherwise noted, each section below corresponds with a processing block in exhibit B, the flowchart.

### **On-Line Processing**

On-line processing is not represented in exhibit B, because monetary transactions are posted only as a reference by the on-line system. This portion of the . . .

### **Card/Disk Entry**

The transaction disk file is processed to create a separate disk file containing only stop and hold transactions. These are the only transactions that are entered on-line and passed to off-line processing, as depicted in exhibit B. Card inputs include new account and file maintenance transactions . . .

### **MICR Entry**

MICR input items are read, validated, sorted, and written to the transaction file during this processing. Batch control totals and item sequence numbers are used to provide an audit trail. Transit numbers on inputs are compared . . .

### **Sort and Edit**

Sort and edit programs are executed after all the day's transactions have been captured through the card/disk and MICR entry runs. Inputs are arranged in the sequence required for master-file update, deletions are made as . . .

## **Supplemental Information Provided by the Service Auditor**

### **Objectives of the Review**

This report on review of design and compliance testing is intended to provide interested parties with information sufficient to understand the flow of transactions and to rely on certain internal accounting control procedures within Example Service Company's (ESC's) Bank Accounting Management System during the period from [date] through [date]. This report, when coupled with an understanding of internal accounting controls in place at user locations, is intended to permit evaluation of the total system of internal accounting control surrounding transactions processed through the Bank Accounting Management System.

Our review was restricted to selected services provided to system users by ESC and, accordingly, did not extend to procedures in effect at user locations. It is each interested party's responsibility to evaluate this information in relation to procedures in place at each user location in order to assess the total system of internal accounting control. The user and ESC portions of the system must be evaluated together. If effective user controls are not in place, the data-center controls may not compensate for such weaknesses.

Our review included interviews with key personnel, review of available documentation and security procedures, and tests for compliance with certain controls surrounding and provided by the Bank Accounting Management System. Our testing was performed during the period from [date] through [date] and was applied to those identified control procedures relating to objectives that ESC procedures alone could reasonably be expected to achieve.

Auditors may use this report as part of their study and evaluation of a user's system of internal accounting control to provide a basis for reliance on certain accounting control procedures within ESC's Bank Accounting Management System. Alternatively, user auditors may elect not to rely on accounting control procedures within ESC's Bank Accounting Management System. In that event, they should accomplish their audit objective by other means.

The objectives of data processing controls are to provide reasonable, but not absolute, assurance about such things as—

- Proper handling of input and output data records.
- Reliable processing of data records.
- Protection of data files, programs, and equipment against loss or destruction.
- Prevention of unauthorized use of data records, programs, and equipment.

The concept of reasonable assurance recognizes that the cost of a system of internal accounting control should not exceed the benefits derived

and, additionally, that evaluation of internal accounting control necessarily requires estimates and judgments by management.

## **Control Objectives Achieved**

The control procedures listed below were tested for compliance and, in our opinion, were sufficient to achieve, in all significant respects, the following control objectives:

### **General Controls**

*Objective.* The data center is organized to provide adequate internal segregation of duties and functions. The data center is organized and operates as illustrated in exhibit A and otherwise described by ESC.

*Objective.* Data-center and user functions are structured so that appropriate segregation is maintained. (While not illustrated here, this section would go on to list the general and application control objectives that the service center can reasonably be expected to achieve. Control procedures that were compliance tested and found to be effective for each objective would be listed.)

## **Weaknesses and Recommendations**

In the attached description, Example Service Company has described control procedures employed at the data center and within its Bank Accounting Management System. If the control procedures described or the degree of compliance with them are not sufficient to achieve related control objectives when considered without regard to the effectiveness of user control procedures, the related objective is repeated, and weaknesses are identified below. Weaknesses identified in this section are not necessarily weaknesses in a user's total system of internal accounting control; that determination can be made only after considering procedures in place at user locations. Recommendations for improvement have been provided to ESC under separate cover.

*Objective.* An EDP review and verification function should be performed by internal auditors.

*Weakness.* The internal auditor does not monitor the general controls of the data center or the control procedures within the Bank Accounting Management System.

## **General Control Procedures**

General controls relate to all EDP activities and are considered basic to the effectiveness of specific application controls. It is important to understand these general controls in evaluating controls within specific applications. Various categories of general data-center controls are discussed below in terms of objectives, and they are followed by the controls employed by ESC to assist in attaining the indicated objective.



## **Organization and Operation**

*Objective.* The data center is organized to provide adequate internal segregation of duties and functions.

*Controls.* As illustrated in exhibit A, and otherwise described herein, the ESC data center is organized to provide reasonable segregation of duties and functions.

*Objective.* Data-center and user functions are structured so that appropriate segregation is maintained.

*Controls.* The fact that ESC . . .

(In this appendix, D, ESC's description is not in the form categorizing control procedures by the objective they help to achieve. Accordingly, the service auditor would specify the control objectives and all those control procedures that would help to achieve them and that were included in ESC's description.)

## **Application Controls Within the Bank Accounting Management System**

Application controls are addressed below in the general context of on-line and off-line processing. In each case, control objectives are stated first, followed by control procedures that appear within the data processing system and assist in achieving the objective indicated.

### **On-Line Processing**

*Objective.* Transactions input at outlying terminals are authorized and accurate.

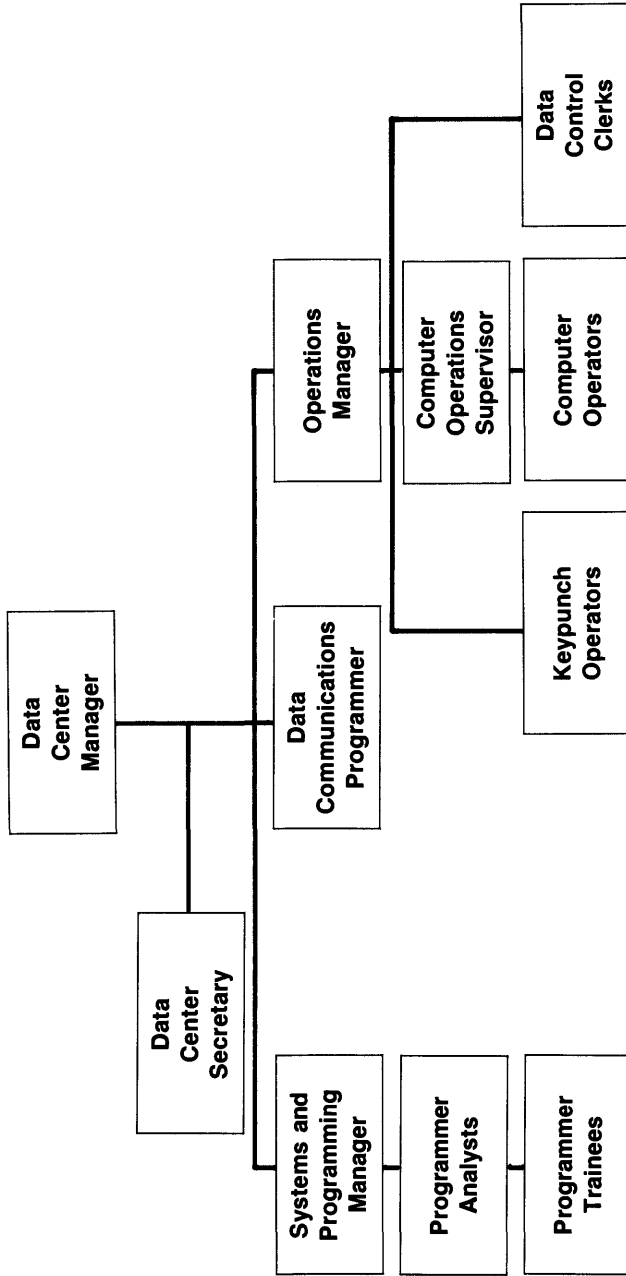
*Controls.* An internal terminal unit table is used to relate individual terminals to specific banks, and terminal operators must execute the sign-on procedure correctly with a valid operator identification number in order to gain access to the central information file system. Terminal operators must also possess the proper key to physically unlock terminals. Input transactions are edited for valid formats and transaction codes. Certain transactions are rejected for the originating terminal. Processing against individual accounts may be further controlled through use of various hold codes. Some transactions require supervisory override before their processing can be completed.

*Objective.* Transactions input at outlying terminals are received and completely processed by the central computer.

*Controls.* The on-line programs are written so that appropriate responses to an outlying terminal indicate processing is complete. Lack of an appropriate response indicates a system problem or terminal operator error.

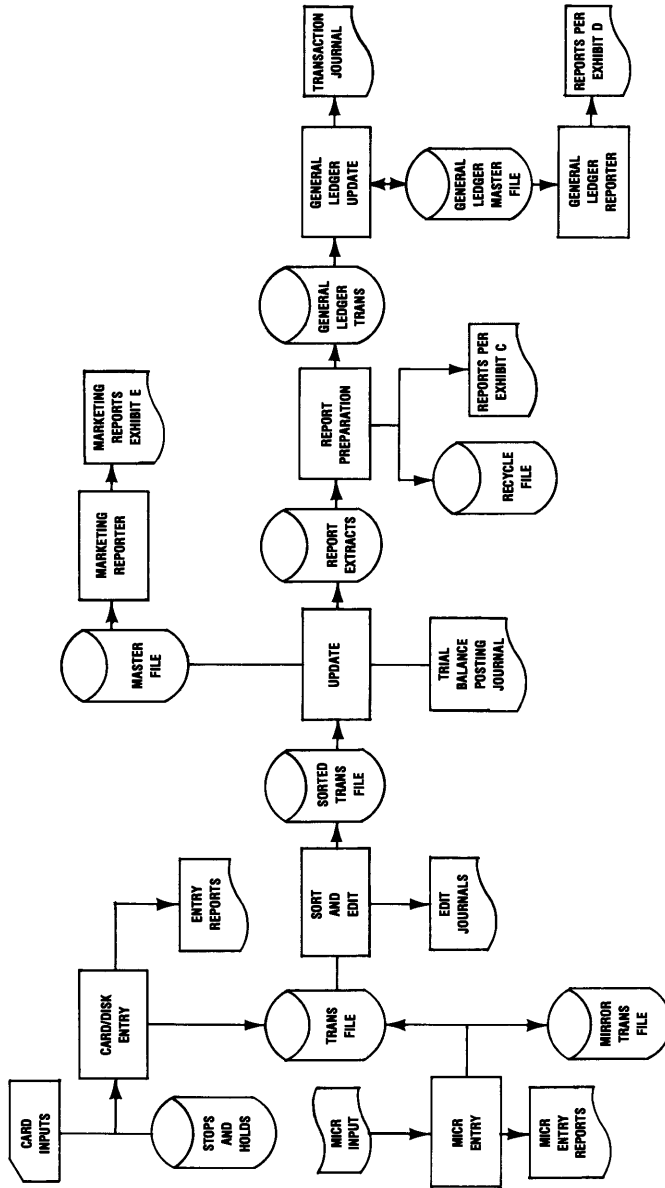
Transactions having a monetary impact on operations affect various teller totals, which are continually updated by the system. These totals must be considered in the daily cash balancing procedures. Effective and timely balancing provides assurance that all monetary transactions entered have been received by the system.

# **Example Service Company Data Center Organization Chart**



# EXHIBIT B

## Example Service Company Bank Accounting Management System—Off-Line Processing Flow of Transactions



## Bank Accounting Management System Principal Reports

|   |   |
|---|---|
| New Customer Account Report                   | Lists new and converted account and customer information, providing a means to validate new file information. The summary totals provide new business analysis data.  |
| Miscellaneous Income Assessed and Collected   | Indicates, for all applications, the source and reason for miscellaneous income amounts, such as those resulting from service/late charges, cancellation fees, and so on.   |
| Waived Service/Late Charges                   | Indicates, for all applications, waived service/late charge amounts.  |
| Automatic Internally Generated Debits/Credits | Provides a record of amounts automatically transferred between accounts, such as those for automatic loan payments, and internally generated debits and credits for disposition of service charge amounts, and so on.   |
| Unposted Transaction Journal                  | Lists all transactions input on a given day that were not posted to an account or reference record, along with the reason why the transaction could not be posted. Indicates the batch number of the transaction as well as the transaction code and amount/data entered. |
| New and Released Stops and Holds              | Indicates DDA and savings accounts on which stops and holds have been newly established or released.  |
| Dormant and Inactive Account Activity         | Lists DDA and savings accounts that were entered or removed from either a dormant or inactive status. Also indicates dormant and inactive accounts that had activity by showing the transaction code and the transaction amount.  |

## Appendix E

# Illustrative Representation Letter

[Data-Center Letterhead]

[Date]

[Service Auditor's Name and Address]

Gentlemen:

We are writing at your request to confirm our understanding that your review of our description of the operating and control procedures of Example Service Company's data center and its Bank Accounting Management System was made to enable you to evaluate whether the control procedures specified in our description were appropriately designed to achieve control objectives specified in the report. We further understand that your review included such tests as you considered necessary to clarify your understanding of the operating and control procedures that we described.

In connection with your review, we confirm that we have supplied you with all significant, relevant information of which we are aware, and we confirm that we have fairly and accurately described the operating and control procedures of the Example Service Company data center as well as its Bank Accounting Management System. We understand that your review related only to information that we provided, and it may not have resulted in identification of all internal accounting control concerns. In addition, we acknowledge that we are responsible for the following:

- Establishing and maintaining an appropriate system of internal accounting control relating to the information processing that is performed for users
- Disclosing to you any significant system changes that have occurred since your last examination
- Disclosing to you any irregularities by service-center management or employees who have significant roles in the system of internal accounting controls over information processed for user organizations

We further understand your report is intended solely for use by the management of Example Service Company, its customers, and the independent auditors of its customers.

We will not reproduce or incorporate your opinion or supplemental information without your specific written permission.

Sincerely,

Example Service Company

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